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ABSTRACT

This annotated bibliography of 70 items was developed as part of a larger research project on the possible application of competency-based approaches to generalist courses (arts, humanities, social sciences, and natural sciences) in higher education. The project also looked at other ways, aside from the use of competency-based approaches, of improving the relationship between higher education and research. The bibliography's main focus is on academic and policy-related literature from Australia and Great Britain, with some material from the United States, Japan, and the Organization for Economic Cooperation and Development. Extensive abstracts are provided for most citations which are listed alphabetically by author. The literature abstracts cover research, mainly from the 1990s, on the transition from generalist courses to work; academic understandings of generic skills; employer selection practices and requirements of graduates; employer understandings of skills; the debate about competency-based reform; and material in related areas such as the debate about the university, the humanities, and the role of careers advisers. The bibliography provides a summary of the field in Australia as of early 1993. (Author/GLR)

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From the generalist courses to work: an annotated bibliography on generic skills

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Abstract

The annotated bibliography was collected during a larger research project on the possible application of competency-based approaches to generalist courses (arts, humanities, social sciences and natural sciences) in higher education. The project also looked at other ways of improving the relationship between higher education and research, aside from the possible use of competency-based approaches.

The main focus is on academic and policy-related literature from Australia and Great Britain, with some material from the United States, Japan, and the Organisation for Economic Cooperation and Development (OECD). The literature covers research on the transition from generalist courses to work, academic understandings of generic skills, employer selection practices and requirements of graduates, employer understandings of skills, the debate about competency-based reform, and material in related areas such as the debate about the university, the humanities and the role of careers advisers. In the case of the more important references, the annotations are detailed and include quotations. The bibliography provides a summary of the field in Australia as of early 1993.

The authors express grateful thanks to the Higher Education Division of the Commonwealth Department of Employment, Education and Training, which provided funding for the original project.

Aulich, Terry, Committee Chair (1990), *Priorities for reform in higher education*, report of the Senate Standing Committee on Employment, Education and Training, Australian Government Publishing Service, Canberra, June.

In the wake of the major policy initiatives in higher education in 1987 and 1988, the Senate Standing Committee invited submissions and conducted hearings as part of a wide-ranging discussion of higher education issues, not limited to those already on the national agenda. This opened questions about the effects of the curriculum on graduates.

Following the evidence of Dr. Don Anderson and others, the Committee expressed concern about the preparation of science-based professionals, and others such as economists, concluding with an argument for a broader and generic higher education of professionals:

> Australia is producing graduates who, all too frequently, are not familiar in any disciplined sense with the society in which they are going to practise their chosen profession, who are not analytical, creative thinkers, whose education does not provide the basis for adequate flexibility, who are not sufficiently attuned to the need for 'lifelong' learning, and who are not good communicators. In short, Australia is producing highly trained technicians who are undereducated in the broader sense of the term' (p. xiii).

The Committee repeated that 'many higher education students experience difficulty in communicating, especially through the written word' and emphasised the need to leaven disciplinary specialisation with broader-based studies. It emphasised the need to give greater priority to high quality teaching, while also noting that 'financial constraints have frequently made it difficult for higher education institutions to provide high quality teaching' (p. xiv, p. 55).

Australian Association of Graduate Employers (1992), *National survey of graduate employers.*, Melbourne, March.

A survey of employers of graduates undertaken by Yann Campbell Hoare Wheeler for the Australian Association of Graduate Employers (AAGE) as a

follow-up to a similar 1989 study. The survey 'serves to provide updated quantitative data on graduate recruitment and development from the employer's perspective'. The main findings were that 1992 graduate recruitment 'is likely to be significantly below 1991 levels', that one in four of the 200 organisations surveyed estimated 'that they will not recruit any pass or honours graduates in 1992, compared to just over one in ten in the previous two years', and that

> the decline in recruitment of graduates has occurred across all industry and organisation types. The most significant declines have occurred in the public sector, and in larger sized organisations (over 2000 employees) (p. 5).

The survey also found that 57 percent of organisations surveyed have a graduate development programme. Most often these programmes occurred within the larger organisations and the public sector. 'A high proportion of employers recruiting in the accounting and law disciplines operate structured graduate development programmes'. The development programmes 'tend to incorporate four main components' usually consisting of 'job rotation, structured graduate training, individually structured training, and project work. On average the length of a graduate development program is two years' (p. 7).

Of the 200 organisation surveyed only 34 took on Arts graduates. Of these only 24 per cent have a structured graduate development programme in operation for them. 66 organisations recruited science graduates, and 61 per cent of these had a similar development programme (pp. 20-21). These figures do not differentiate between graduates with pass and honours degrees.

Commencing salaries for Arts graduates with a pass degrees in 1991 were on average $25,600, a rise of 3 per cent from the previous year. Arts graduates with honours degrees were paid $27,300, a rise of 6 per cent from 1990. The equivalent Science graduates earned $27,700 and $29,100 respectively. The pass graduate's salary rose by 5 per cent from 1990 and the honours graduate's by 4 per cent.

The average salary paid to all pass graduates in 1991 was $27,100, while for honours it was $28,300. From these figures it can be seen that a pass Science graduate gets more than the average salary while a pass Arts earned below the average. The situation was similar honours graduates in both disciplines (p. 11)

The Australian National University Centre for Continuing Education, ANU (1992), *Higher education and the competency movement*, papers delivered to a conference at the ANU on 3 June 1992, ANU, Canberra. Papers by Don Anderson, Jenny Colwill, Neil Johnston, Martha Kinsman, Elizabeth Percival, Alan Ruby, Jim Walker, Ted Whitehead, Brian Wilson.

A useful collection of papers from the period when discussion was opening up about the implications of competency reform for higher education. Some emphasis was placed on particular professions and occupations, with specific presentations on engineering, nursing, and the public service.

For the Department of Employment, Education and Science, Neil Johnston notes that 'there are a number of models for incorporating knowledge in competency statements that can be applied depending on the requirements of the profession or industry. However, this is an area that will benefit from continuing research and development' (p.9). The paper by Brian Wilson on behalf of the Australian Vice-Chancellors' Committee notes that 'when moving from the professions to the more basic arts and science disciplines, the difficulty in defining effective competency standards becomes greater' (p. 57). In his Foreword, Don Anderson notes:

> The competency movement in Australia has already put some runs on the board. It has challenged educators to examine some of their assumptions, for example: to reconsider the objectives of their courses; to think about the links between education and the world of work; to inform themselves of new modes for delivery of educational services; and to question the validity of traditional conceptions of the lecture theatre, timetable, the academic year'and a minimum time before graduation. It is no mean achievement getting educators thinking about such questions and, if it achieves nothing else, the competency movement will have been worthwhile for this.
>
> Supporters of the competency approach tend to skip over some troublesome assumptions which are embedded in the idea. One is that the technology of educational measurement has a precision to match the specification of competent attainment. A second is that the whole is equal to the sum of its parts - a respectable tradition in education asserts that no amount of specification can capture all that occurs in the teaching-learning experience. Thirdly there is the assumption that a competent performance can be pre determined, an assumption which would appear to play down originality and innovation. And fourthly competencies are defined as if

> context is not relevant whereas there is a whole tradition of social science which places context at the centre of human behaviour (p. i).

The papers by Colwill, Kinsman and Ruby are referred to separately (Ruby's paper was subsequently delivered to an EPAC seminar and published by EPAC).

Baldwin, The Hon. Peter, Commonwealth Minister for Higher Education and Employment Services (1992), Opening address to a seminar on 'The professions and competency standards' organised by the Australian Council of Professions, Hyatt Hotel, Canberra, 17 November.

This address by the Minister then responsible for higher education addresses the question of competency reform in the professions, but touches on generic competencies or skills at several points.

Baldwin outlines the reasons for competency-based initiatives and the Government's desire to facilitate student movement between the different sectors and forge closer links with work-based training and experiences. 'Government policy is not to create a seamless web, but to ensure that there are adequate bridges between the sectors while maintaining the distinctiveness of each' (p. 6). He notes that the different sectors of education (including training) use varying terminology to describe learning outcomes. Higher education talks about 'generic skills and attributes of graduates' , whereas in vocational education and training 'competency' has fitted most comfortably. 'Part of the confusion arises because different sectors use the term competencies in different ways and the ambiguity causes further breakdowns in communication' (p. 1).

Referring to the Higher Education Council's discussion of the outcomes of higher education, and the role of knowledge in higher education, Baldwin argues against a narrow definition of competence and of the roles of higher education, and emphasises that higher education courses should not be 'skewed' to the extent that they focus only on measured competencies. On the generalist courses he notes that

> Over one third of university graduates are generalists, that is they graduate from courses or disciplines which are not specific to any profession apart from the academic profession. This adds weight to the argument that while discipline skills

> and technical proficiency are important, the higher level generic skills are critically important in higher education. These include qualities such as critical thinking, intellectual curiosity, problem solving, logical and independent thought, effective communication, and related skills in identifying, accessing and managing information; personal skills such as intellectual rigour, creativity and imagination; and values such as ethical practice, integrity and tolerance (p. 4).

Bee, M. and Dolton, P. (1990), 'Patterns of change in U.K. graduate employment, 1962-87', *Higher Education*, 20, 1990 pp. 25-45.

A study of the statistics compiled about the destinations of graduates since 1962 as part of the First Destination Return series. The authors look at the overall rate of graduate unemployment, which has been rising since the 1960s - somewhat in line with the figures for the wider community.

The figures show that for most of the 1970s and 1980s 'the highest rates...were to be found in Arts' (p.28). Later in the article the authors argue that graduates in the Arts ('Artists')

> have had to compete with graduates of other faculties for vacancies open to any discipline, since there have relatively few vacancies requiring specific Arts qualifications. It is, however, significant that most of those Arts vacancies which have arisen have called for a language qualification (p. 35).

The authors also claim that Arts graduates tend to engage in more 'job shopping' than more specifically vocational graduates. This may be because of the non-specific nature of their qualification or because they wish to work in an area directly applicable to their interests and abilities.

On science graduates the evidence is more ambiguous. For biological sciences, unemployment has been consistently above the average for other science subjects. Unemployment has been lowest in Maths, with Physics and Chemistry sharing a similar pattern. The authors attribute the major problem in the biological sciences to its similarity with Arts, i.e. the fact that it is not job or career specific. They quote a 1984/5 *Degree Course Guide* for biology that suggests that even though graduates in this field tend to be suited to a number of occupations, 'they tend to be so committed to their subject that they first seek careers directly related to it' (p. 38).

The paper includes some useful tables and graphs outlining trends over the last couple of decades.

Boys, C.J., Brennan, J., Henkel, M., Kirkland, J., Kogan, M., and Youll, P., (1988) *Higher education and the preparation for work.*, Higher Education Policy Series 4, Jessica Kingsley Publishers, London

An important study carried out between 1984 and 1987 on the 'ways in which higher education, and particularly the teaching of undergraduates, responds to the influences of the environment of which the labour market is a major element'. The authors looked at a number of disciplines at nine universities and polytechnics 'mainly in 1985 and 1986' (p.11). The institutions chosen represent a cross-section of British higher education. They are not specifically identified. Rather, a brief outline of the history of each is provided, and a name, such as 'Ancient University', 'Coastal College' etc., has been attached.

The study sought to ascertain whether curricula were changing in response to employment needs and whether higher education does in fact prepare graduates for work, and whether any shift 'towards the acquisition of knowledge and skills instrumental to economic and social objectives' has taken place.

History. The researchers looked at the teaching of history across the institutions. They argue that although staffing levels have been cut over the 1980s history has remained at the core of British higher education, part of the 'high culture' of the nation. They also argue that it has almost been immune 'from any need to defend itself as an area worthy of study' (p. 21). Its popularity has also remained high and its graduates have found little problem in gaining employment:

> Although its substantive content is not directly related to the tasks performed in industry, commerce or the public sector - except for school teaching - graduates in history and humanities subjects have always secured employment in all these areas of work. This derives from the fact that employers want people who can demonstrate all round development, general ability to learn and to relate to colleagues and communicate (p. 21).

The authors did note, however, that the employment prospects of graduates were not as open as they had been, and a consequently there was a

'wide concern among historians about student employment and in some cases a positive responsiveness to the potential futures of students' (p. 21).

While noting that at some institutions there was a definite move toward ensuring that students have explicit employment skills, there was also a strong belief among historians that 'training to adjudicate between different versions of events and handling an making sense of a mass of material prepared students well for the world of work where skills training best belongs' (p. 22).

The study looked at the some of the changes made to curricula in order to make them more relevant to the needs of society. They found that some groups attempted to meet these needs in one or more of three ways. These included having

> courses which might attract funds and students...courses whose content reflected concern with the economy as a historical phenomenon directly affecting students' own lives...[and] courses embodying employment-related skills (p. 27).

For the purposes of this study the last of these will be examined. Some respondents rejected this approach out of hand, preferring the traditional 'personal development' and liberal view of the history degree. These people tended to see the skills learnt while doing a degree, such as critical thinking, orderly thinking etc. Others, however, were looking at the skills employers claim to want and were working in collaboration with Careers and Appointments officers in order to create courses useful for employment (such as working in groups), and so that students would be better informed about marketing their skills to potential employers. The authors found that this concern, although noticeable across all institutions, was most apparent in the less prestigious places (pp. 30-31).

When looking at the actions institutions were taking to improve the teaching of transferable skills, the researchers found that the emphasis for this tended to come from individual staff or groups of staff rather than the wider institution: 'It was individual staff, or groups of them, who were anxious about the career prospects of their students. In none of our polytechnics did the institution lead initiatives on tilting the curriculum towards the teaching of transferable skills...' (p. 36).

English. 'As with history, English courses, particularly in the universities, were not likely to be highly responsive to the labour market' (p.38). The authors argue that English is similar to history in being at the

forefront of 'cultural' knowledge in Britain. They do argue, though, that it has been vulnerable to cutbacks and the 'emphasis on commercial and technological needs'. Like the historians noted above, teachers of English were concerned about the career prospects of their graduates, but often saw no need to change the curriculum for employment-related reasons. Instead, 'it was widely believed that the study of English provided a general education that would be useful in a wide range of occupations' (p. 40).

Many departments did spell out the skills they imparted to students. According to the study, the 'transferability of skills to a wide range of occupations was a general theme running through staff evaluations of the relevance of English studies' (p. 41). This was often spelt out explicitly to prospective students in handbooks and such (pp. 42-44), and efforts were being made to get students to think about career options and discuss these with careers advisory staff. The authors did find, however, that among many teachers of English there was a recognition that 'English graduates would require further training for most occupations' (p. 45).

In conclusion, the authors found that although changes in curricula had occurred over the last twenty or so years, these had occurred more because of changes in society and consequently within the interests of academics, than because of 'relevance' factors. What they tended to find was that

> English, along with history, is seen as a subject which enhances a number of the general skills required in employment, although there is no systematic attempt to ensure that a range of skills of value in employment are taught....Graduate employment - although a concern of many teachers - does not penetrate the heartlands of the curriculum, varied as they are. It is likely at best to bring about the broadening of what is offered, together perhaps with a greater measure of collaboration with careers services (p. 50).

Physics. Physics, like history and English enjoys something of a status as an intellectually elite subject in Britain, according to the authors. Physics has not traditionally concerned itself with preparing its graduates for employment, more, academics in the field have thought that 'a thorough and confident grasp of basic theory and principles' would provide a foundation for 'the demands of both current professional practice and future change' (p. 57). Academics interviewed tended to believe that they were better placed to

judge the long term needs and interests of their students than were industrialists. They therefore structured their teaching accordingly.

The researchers found that about one third of physics graduates go into further education and another third go into 'industry and commerce with the largest number going into engineering and allied industries'. They found, however, that 'the proportion of physics graduates entering industry as a whole has dropped in the past three years. The fall has been roughly matched by an increase in the number of physics graduates recruited to accountancy, banking and commercial enterprises (p. 57). A survey of employers of physicists found that they looked for

> Graduates who were well grounded in classical physics theory and techniques, confident problem-solvers, numerate, literate to the extent of writing coherent research proposals and who had team work skills and all round common sense. Some were also looking for graduates with some understanding of how industry works and of the relationship 'between marketing, design, high quality manufacture and commercial success' (p. 57)

Departments are beginning to accept that they must be more concerned with the potential employment destinations of their graduates. The authors were unsure whether this stemmed from a deep interest or whether because of government policy they 'have felt obliged' to do so. As a part of this they are including 'more on applications... and the skills required for professional practice, and to promote positive attitudes to industry among both staff and students' (p. 61). Some were also involving careers advisory services in their planning and teaching.

Changes were occurring in curricula for a variety of reasons, including those noted above, but found that 'the strongest factors in curriculum related to the discipline'. They were often motivated by the need to maintain academic credibility (p. 67). In conclusion, they found that 'even in the most applied courses in the study' the primary concern shaping curriculum 'is to provide students with a thorough academic grounding' (p. 71).

Boys, Chris (1992), 'Employment, skills and career orientations: English and history undergraduates compared with other undergraduates', in Ruth Eggins (ed.), *Arts graduates, their skills and their employment*, Falmer, London, pp. 116-122.

Boys' chapter presents the results of a survey of British students in their final year about the extent to which they felt that they had improved various skills and qualities as a result of being in higher education. Students from history, English, economics, business studies, physics and electrical engineering were included. Scores of +3 represented great improvement, +2 represented quite an improvement, +1 represented marginal improvement, 0 represented stability and -1 indicated deterioration.

On *thinking* history scored best, followed by English and economics. History (2.20) and English (2.25) scored the best on 'critical thinking' with both physics and electrical engineering coming in at 1.47. On 'objective thinking' results were more bunched, but physics (1.31) and electrical engineering (1.23) scored low. English (1.79) was highest on 'original thinking' and physics (1.20) was lowest.

On *understanding concepts* scores were English 1.89, history 1.84, economics 1.64, business studies 1.51, electrical engineering 1.45 and physics 1.29.

On *breadth of understanding* no discipline scored highly. English, history and economics were ahead of the others and both electrical engineering and physics were very low. History and economics (both 1.82) scored highest on 'understanding social issues', followed by English at 1.76. Electrical engineering was rated 0.94 and physics 0.93. On 'understanding ethical issues' only English (1.53) and history (1.40) rated much above 1, with physics coming in at 0.79. All disciplines rated close to 1 on 'understanding other subjects', with history (1.23) and English (1.20) slightly ahead of the others.

On *absorbing information* and *quickness of learning* no discipline ranked highly, with history (1.33), economics (1.32) and English (1.31) slightly ahead of the other disciplines.

On *working independently* there were greater differences: from history (1.88) and English (1.79) to economics (1.65), business studies (1.61), electrical engineering (1.48) and physics (1.36).

On *communication* the science-related disciplines scored badly and overall, economics and business studies were a little behind English and history. On 'written communication' history and English (both 1.93) did best. Business studies rated 1.52, but economics received 1.10, physics 1.01 and electrical engineering only 0.90. On 'oral communication' business studies (2.01) was much the best, followed by English (1.75), history (1.73), economics (1.63), physics (1.36) and electrical engineering (1.32).

No discipline ranked well on *numeracy* but physics (1.18), electrical engineering (1.11), business studies (0.96) and economics (0.90) were way ahead of the humanities, whose students felt that their numeracy skills had deteriorated: history -0.12 and English -0.13.

Business studies was the only discipline that rated well on the development of *interpersonal skills*. The others rated about the same, with history slightly the lowest. On 'ability to work with people' business studies scored 1.79, physics and English each received 1.32, economics 1.26, electrical engineering 1.25 and history 1.16. On 'leadership' business studies rated 1.57; other disciplines clustered between 1.01 (English) and 1.10 (economics).

Again, business studies ranked highest on *personal skills* but here the results were somewhat more even. On 'self confidence' the scores were business studies 1.77, history 1.70, English 1.63, economics 1.62, physics 1.52, electrical engineering 1.51. On 'drive and ambition' only business studies (1.450 had an medium level rating, with economics at 1.15, history 1.05, English 0.93, and physics and electrical engineering quite low (both 0.87). No discipline has significantly improved 'reliability', with business studies highest at 1.04 and the others ranging from 0.91 for economics to 0.73 for history and a low 0.65 for English. (These last scores indicate one of the respects in which the demands of work differ from those of education).

Boys notes that the same survey found that many history and English students do not have a strong vocational orientation to their courses. His conclusion is that these humanities students should be 'made more aware of their value on the labour market', and this can be done through the assessment and recording of transferable skills throughout the academic course; this could also be linked to work experience (p. 122).

Bradley, D. (1992), *University of South Australia: the implications of the competency debate for the University,* unpublished paper, 11 August.

An internal paper setting out the concept of competence, its recent history in Australia, the rationale for the push toward a competency-based curriculum, and the work of the Mayer Committee. The paper discusses the implications of the idea for higher education, especially for universities 'like ours with a majority of its profile directed to the education of people for the professions' (p.6).

Bradley sees that 'broadly, then, the pressures on the University from the adoption of the competency model elsewhere are likely to be at the point of entry and in the framing of courses' (p. 7). The main focus of the paper, then, is on the relationship of the University of South Australia with the professional bodies of the disciplines it teaches. The competency approach will also impact on the entrance requirements of the university where it is 'possible that we might see a considerable increase in the numbers of people seeking entry with a variety of statements of achievement' (p. 8).

Bradshaw, David (1992), 'Classifications and modes of transferable skills', in Eggins (ed.), pp. 39-115.

A major essay that sets out to survey the whole topic of 'transferable skills' in terms of theories, policies and practices in Britain. Bradshaw notes that while demands for universities to be more relevant and contribute more to economic development have been heard for decades, 'what is new is the increasingly explicit response expected of higher education institutions' (p. 39). He forecasts that in future some universities will specialise in research while others will specialise in 'employment needs' (p. 110).

Employers are now placing greater emphasis on defining generic skills, and selecting employees who possess these skills, which are seen as a long term investment. Bradshaw lists a number of employer taxonomies of generic work-related skills, noting that these tend to be specific to the particular work context and to managerial roles. He then reviews some of the responses of the higher education institutions, including research and publications: Weiner-Barnet, Boys et al (1988), the University of Sheffield's personal Skills Unit, projects under the Manpower Services Commission-instigated Enterprise in Higher Education initiative (pp. 49-55).

Bradshaw then examines developments in the United States, including the College Outcomes Measurement Project, the American Program Evaluation Project, Alverno College's competency-based liberal curricula, and Our Lady of the Lake University at San Antonio, Texas. Alverno's eight broad areas of competence are described in detail (pp. 55-65).

Reviewing the different models of generic skills, he finds that as in the literature on management, 'there is no agreed vocabulary' in relation to transferable skills, and 'the relationship between skills and knowledge is blurred'. With both the academic classifications and the employer

classifications each varying substantially, it is not surprising that it is difficult to secure agreement across the academic-employer divide. 'A further problem is the difference of purpose'. One consequence is that employers value oral communication much more highly than academics, whereas in the case of written skills it is the reverse (pp. 65-67).

A detour through psychological literature on personality and skill then follows, focused on taxonomies of traits and personality types. The left and right hemispheres of the brain get a guernsey at this point. Bradshaw then returns to discussion of the main identified fields of work-related generic skills under the heading listening, speaking, reading, writing, looking, elements of seeing for the artist, making visual images, quantification skills, analytical skills, synthesising skills, imagination, clarifying values, intuition, searching skills. There is also some discussion of interpersonal skills (pp. 90-95), team-working, team skills and self-management.

In concluding with a discussion of 'some related issues', Bradshaw acknowledges the fundamental point that

> A basic assumption underlying the thinking in this book - that skills transfer from one situation to another. it is not unreasonable, for the distinctiveness of *homo sapiens* lies in the ability to think and to remember what has been learned in one situation so as to apply it to another. But not all attempts to transfer succeed and the limitations upon successful transfer have been the subject of laboratory investigation for many decades.
>
> There are two broad aspects of transfer; one that attempts are made to transfer skills but they prove to be the wrong ones, the other that skills tend to be used only in the context in which they were learned (Bradshaw 1992: 99).

'For all the work that has been done to bring the worlds of the academy and employment closer together significant differences remain', he says, citing Candy and Crebert. Cognitive psychologists who have worked on the transfer of learning have found it a particularly difficult area for experiment 'since rigour requires the elimination of variables which distort or invalidate findings while the process of transfer from academy to employment is so multi-faceted as to defy this kind of treatment'. While 'there are general cognitive skills .. they always function in contextualised ways'. A high level of abstract thinking might be relatively ineffective when the knowledge base is thin (pp. 99-100).

Another problem is that there may be 'an intractable incompatibility between the attitudes and habits of mind developed through higher education in the liberal tradition, and those required by employers'. For example, 'there is a potential mismatch between intellectual curiosity and the pursuit of lines of enquiry and arguments to their conclusion and the need to meet deadlines and be confined by objectives' (pp. 106-107). He concludes that the two approaches can rest in the same person.

Business Council of Australia, BCA (1992),*Workforce 2000*, BCA, Melbourne.

A survey of employers, prepared for the Business Council by Towers Perrin and Cresap Australia Pty. Ltd. The companies report that in a tight labour market their first recruitment priority is experienced workers, followed by graduates, 'who are perceived to bring medium to high levels of competency to the workplace'. There is much unfocused general criticism of the standards of school leavers. Respondents predict that there will be a major shortage of graduates over the next five years: 'the labour market for skilled, experienced and educated people will, as always, be tight' (p. 26).

Business Higher Education Round Table, BHERT (1992), *Educating for excellence*, Commissioned Report Number 2, BHERT 1992 education surveys, BHERT, Melbourne.

The survey is in two parts. In neither part is the data specific to generalist graduates and the impression is created that most of the employed graduates are professionally qualified, although 'undergraduate education for the professions should include general studies drawn from across the humanities, social sciences, and sciences, as well as professional studies', a position that has stronger support in universities than in business (pp. 22-23, p. 26).

In the first part, 28 education and business leaders are interviewed. The main finding is that business leaders and university Vice-Chancellors agree on the need for 'a broad education which will ensure that graduates - regardless of the courses undertaken - have high order skills in the areas of oral and written communication, have well developed interpersonal skills,

are numerically and economically literate, and have a grounding in the study of Asian culture and values' (pp. 3-4).

Some of the largest corporations do not employ new graduates. 'The short term lack of productivity during the transition of the new graduate from university to workplace is clearly regarded as a cost to be avoided' (p. 12). The pool of graduates is now so great that employers are being more selective (pp. 5-6). The majority do not want to increase the number of graduates, which would be 'debasing the coinage' (p. 16).

The average graduates is seen to be lacking capacity to apply knowledge in the work environment, especially in problem-solving and decision-making, and need more motivation and entrepreneurial flair. However, the best graduates are seen as having a more balanced education than their predecessors, 'being far more multi-dimensional' (pp. 3-5). Tertiary graduates lack oral and written communication skills, lack logic, lack the ability to communicate and discuss, 'the ability to relate, communicate and interact with others from different backgrounds and experience ... and are deficient in their ability to conceptualise projects from broad goals to ultimate evaluation' (p. 8). It is suggested that a more general first year university year might provide the broader approach and would allow delay in decisions on specialisation, including entry into the professions (p. 11).

> Training specifically for a job is not seen to be the prime role of a university, and many agreed that it would be unfortunate if our universities came to be regarded as training centres rather than centres of learning and research. However, as the demand increases for skills training the question must be asked as to whether or not it should be brought into the mainstream of higher education. An American-type college system prior to university entrance was one alternative mentioned as providing a possible avenue to cover the additional need for skill (p. 11).

The respondents said that in future graduates will need to be 'adaptable, able to accept responsibility and authority, able to work with and under others, able to embrace change and new experiences, and be tolerant and accepting of different values', and will need to be more interdisciplinary in their training and orientation. 'Both new graduates and business will need to be committed to the notion of lifelong learning' (p. 15, p. 18).

In the second part of the survey the people interviewed are university lecturers and business supervisors of newly recruited graduates. About one third of the academics surveyed were from generalist disciplines. Results

were broadly similar to the other survey but revealed some interesting differences over priorities within education.

Respondents agreed that the most important objectives of university education were the development of thinking and decision-making skills, and communication skills. This was more important than 'professional knowledge' which in turn was more important than 'learning knowledge and skills directly relevant to the workplace'. Both groups give some emphasis to the importance of skills in decision-making and problem solving, the capacity to learn new skills and procedures, the ability to apply knowledge in the workplace, and 'the capacity to work with minimum supervision'. Comparison here is hampered by a normative/empirical split between the two different populations. University people were asked about the emphasis the *is* being given to various characteristics of university graduates while business people were asked about the emphasis that *should be* given to those same characteristics.

Despite the agreement on the importance of communication skills, these rate only a modest emphasis in university programs (pp. 21-22). 93 per cent of the business recruiters said that communication skills had a 'strong or very strong emphasis' at the point of recruitment' (p. 29). Business ranks 'capacity for cooperation and teamwork' more highly than universities. For university lecturers computer skills were a high priority; business ranked the eighth of 12 objectives (p. 28). Most strikingly:

> For the university respondents, greatest emphasis was placed on giving students theoretical knowledge in the professional field, whereas having such knowledge was ranked only seventh among characteristics considered by business in recruiting staff (p. 21).

Graduates were seen as good in their theoretical-professional knowledge, capacity to learn new skills and procedures, and use computers: they were seen as poor in general business knowledge, including 'understanding business ethics'. The business respondents saw graduates as deficient in communication skills (p. 22).

In recruiting university graduates the major criteria, using a five point scale of emphasis, were motivation to succeed in career (4.20), personality characteristics (4.13), knowledge and skills displayed at interview (4.04), courses completed (3.84), and grades received (3.79). Write-in responses

mentioned communication, team skills, initiative and decision-making skills (pp. 32-33).

Campbell, R. (1992), 'The latest educational jargon: quality and competencies', text prepared for publication in the *ANU Reporter*, August 1992.

A short article for the university's internal newspaper written by the Dean of Arts at the Australian National University, who argues that the quality and competency movement are essentially the same thing and that both are bureaucratic and political 'quickfixes'. Campbell says that for universities, competency is irrelevant. In university courses 'this approach either fails to be comprehensive or is irredeemably vague and obfuscating'. University courses, especially professional ones, should instead aim to create people who can 'develop understanding', 'respond sensitively', 'exercise judgement' and 'think creatively'. These cannot, however, be 'specified with the kind of precision necessary to be used as tests for admission to professional standing'.

Campbell suggests that there is some place for competency in universities, for example languages, computing skills and other similar fields. But the concept of 'generic competencies' that can be used across a variety of situations is 'irredeemably vague' - '[a] value, or an attitude, or a generic capacity, is not a competence'. He concludes that the competency movement will eventually collapse under the weight of what he sees as its own internal contradictions.

Candy, P. and Crebert, R. (1991) ,'Ivory Tower to Concrete Jungle', *Journal of Higher Education*, 62 (5), pp. 570-592

An Australian study, basically of professional graduates, though some mention is made of generic skills. Candy and Crebert's study is important, however, because of the care with which they separate and specify the differing requirements of higher education and work, while also recognising that each general site has a wide variety of particular forms (p. 573). This article breaks fundamentally with simplistic assumptions and normative claims about the universality and the transferability of skills. It is one of the starting points for a more sophisticated understanding of the education-work relationship.

Of particular interest is the contrasting lists of workplace requirements and educational requirements (pp. 577-578) [see Table 8 in main report].

In comparing education and work, the authors note that the literature mentions shared learning at work versus individualised learning in universities, greater use of technology in the workplace, 'contextualised reasoning' at work and 'manipulation of symbols' in education, etc. At work the end result of reasoning is often the solving of a problem, whereas education's concern is 'generalised learning'.

Candy and Crebert themselves emphasise the order and predictability of the educational setting, its long time spans, its awareness of theory and the isolation from fellow learners. University graduates are often the opposite of desirable employees because they have had 'an unconscious training in anti-teamwork' (p. 582). At work, as well as the orientation to problems (education has 'elegant answers' but work has 'practical solutions'), team-work and group goals, and the greater unpredictability of demands, there is more reliance on self-criticism and self-assessment, more need for lateral and critical thinking, much greater reliance on oral communication. The capacity to respond in a crisis becomes very important.

Their description of both higher education and work as contrasting *learning* environments is also distinctive. This opens the possibility of closer analysis of the knowledges specific to the workplace, and of the more general relation between work and knowledges.

Candy and Crebert emphasise that the transition to work is characterised by shocks and lags, and theorise ways of minimising these. Closer empirical investigation of their propositions would be fruitful:

> The main problem facing the new graduates ... is that many of them have had little, if any, practice in dealing with problem solving, decision making, and interpersonal relationships and therefore have to adapt their learning strategies to meet unpredictable demands. The element of 'surprise' in the transitional phase is often the result of inadequate counselling or preparation for joining the workforce, and frequently stems from the graduate's uninformed expectation that the work environment will display much the same qualities of supervision, order and control that characterised her or his university experience. the new graduate entering an unfamiliar work setting commonly is confronted with 'reality shock', when expectations and actual experience do not match up. The graduate's adjustment and adaptation to the work setting are accompanied by what Marsick calls 'self-reflective

> learning', the kind of learning directed at change and self-development instead of the prescriptive, structured learning of university.
>
> It seems likely that job settings could be enhanced as learning environments, and the transition for graduates could be eased, if the major continuities and discontinuities from one context to another could be documented. In this article, some of the discontinuities between the two learning environments are identified. (p. 572).

Later they remark that 'graduates have to undergo a process of socialisation or 'enculturation', during which the learning strategies they have relied on for so long are adapted to the new demands made on them, and they become part of the intricate, socially constructed 'web of signification' that apply in their particular work situation' (p. 581).

They put forward some proposals to improve the transition from education to work: the main emphasis is on forms of learning. In education they suggest more emphasis on learning-centred programs and less emphasis on teacher-centred programs, more team learning, more off-campus cooperation with industry, more emphasis on the unpredictable and disorderly character of work. At work, transitional arrangements need to be strengthened, and induction programs should include group skills and team membership, oral presentations, and open-ended training tasks with short time horizons. 'The challenge, in the final analysis, is to minimise the gap' separating work and education, 'without impinging on the uniqueness of either setting' (pp. 584-589).

On generic skills, Candy and Crebert argue that employers tend to look for people with 'higher order procedures', that is, '(abilities to acquire new skills and to develop expertise in them; abilities to treat new situations as problematic and reach solutions that accomplish unfamiliar goals) and who accordingly can display adaptability, critical, and lateral thinking' (p.578). They suggest that employers who chose graduates with a generalised rather than specialised preparation are seeking someone who will

> demonstrate the ability to develop specific skills quickly and be able to apply them to new and unfamiliar situations, at the same time displaying a broad range of competencies in loosely related areas (p 579).

Colwill, J., (1992) 'Competencies and Competency Based Training in the Australian Public Service', in ANU (1992) *Higher Education and the Competency Movement,* Australian National University Centre for Continuing Education, Australian National University, Canberra pp. 79-87.

Colwill is the Assistant Commissioner HRD Policy and Projects Branch, Public Service Commission. Her paper describes the Australian Public Service's move into the competency area in context of its position as a huge employer with 'over seventy separate departments, agencies and statutory authorities' (p. 79).

Colwill argues that 'competencies make development more relevant to the workplace; they also make it easier to assess the impact training has on performance'. She claims that 'approximately 30 per cent of new entrants to the APS hold tertiary qualifications' (p. 82. Many of these are in non-vocational specific areas, and thus the APS provides a microcosm for a wider study of generic employment related competencies).

The APS has created a list of competencies used at various levels of the service. These include 'SES core criteria', 'Senior Officer Competencies', and 'other competencies'. JAPSTC (the Joint APS Training Council) has special responsibilities for advice on 'the development of core competencies and related training standards, competency based assessment, and the curriculum development and accredited training programs' (pp. 82-83).

The APS is also working on entry level training. This is being co-ordinated through JAPSTC and will

> take account of the findings of the Finn Committee...[and] the Mayer Committee.....key competencies....APS entry level training competencies will be developed through a separate, but related process to those competencies identified within the Australian Standards Framework and endorsed through the National Training Board. Most importantly, once they are in place, attainment of these competencies will provide a basis for articulation toward higher qualifications related to a skills based career path in the APS (p.83).

Colwill concludes by arguing that CBT provides great 'benefits and opportunities' for the APS, and that it is up to her group to market these opportunities within the service. 'CBT introduces a whole new language, and forces us to change traditional perceptions of how people can develop and apply knowledge and skills relevant to the workplace' (p.87).

The Council for Industry and Higher Education (1990),*Towards a Partnership: The Humanities for the Working World.* London.

A report looking at the nature and role of the humanities in British higher education in the 1990s. It argues that the relevance of education in the humanities should not be in question, but that the *'criteria* of relevance...deserve to be rethought, bought up to date, and restated' (p. 1). It goes on to argue that up to 50 per cent of humanities graduates work in industry and commerce, and that these people are increasingly seen as useful to business because

> somewhat to its own surprise, *business is beginning to describe managerial virtues in the humanities' own vocabulary* of 'imagination', 'vision', sensitivity', and 'creativity'. Moreover, in such a climate, the iconoclasm of a trained critical mind is a powerful business qualification (p. 4).

Quoting from its 1987 report, *Towards a Partnership,* the Council calls for higher education to improve the communication skills of students, including in 'mathematical concepts and terms'. It argues that an 'institution requiring 'language competence' explicitly in every aspect of its teaching process would deserve the widest possible industrial support' (p. 6).

The report says that notwithstanding the traditional ability of humanities graduates to get jobs, humanities students must be made aware that while 'the humanities disciplines can be vehicles for a first-class preparation for life, they are not a passport to it'.

> Humanities students must continue to be told that the world of affairs is increasingly professional and that the humanities disciplines do *not* provide a professional training for it. *Liberal learning at universities and polytechnics is much better understood as excellent groundwork for training rather than as inadequate training for a job* (p. 8).

Dall'Alba, Gloria (1992), *The role of teaching in higher education: enabling students to enter a field of study and practice.* Occasional Paper Number 92.5, Educational research and Development Unit, Royal Melbourne Institute of Technology, Melbourne.

The paper argues that because higher education sets out to develop students' ways of thinking, acting and approaching a field of study and practice, this should also be the focus of teaching in higher education. 'This view of teaching involves developing students' understanding of the perspective that is relevant to the field'.

The paper talks about the 'limitations of focusing on skills, knowledge, procedures, concepts, and principles ... particularly in relation to teaching aims' (p. 1). It is more relevant to vocational education than generalist education, but some of the points have a broader resonance. For example, the reference to Sandberg's work on Volvo in Sweden:

> Sandberg demonstrated that relevant skills and knowledge are themselves learned in different ways, depending on the meaning which the work has for the worker. In the higher education context, this means that skills and knowledge are learned in accordance with the meaning which the course content has for the student (p. 10).

Dall'Alba, Gloria and Sandberg, Jorgen (1992), 'What's in competence for institutions?', *Australian Campus Review Weekly*, 13-19 August, pp. 8-9.

The authors provide an overview of the literature on competency-based training, and of some of the educational and vocational issues. This is an insightful short statement that bears close examination.

They argue that 'there is no consensus about what constitutes a competency-based approach, nor about the view of competence that underpins it'. There are four ways of seeing competence: as attributes (including knowledge) possessed by individuals, as oriented to tasks in employment situations, as the integration of knowledge and skills to deal with practical tasks in the workplace, and 'the way in which the work being undertaken is itself conceived' (p. 1). Summarising Sandberg's earlier work, the authors note that he uses the last approach. He

> He regards skills, knowledge and attitudes as pre-condition for competent performance but claims that they do not represent competence itself ... he describes competence as the conception of the work, that is, the meaning which engagement in the work has for the worker. The meaning can be developed both through workplace-based activities, as well as learning an appropriate approach in settings such as

> educational institutions. Hence, a conception of the work is experienced-based. Sandberg demonstrates that particular work being undertaken is conceived in fundamentally different ways by practising professionals and that their conception of the work underpins their capacity to carry it out effectively and efficiently. furthermore, he shows that the way in which the work is conceived provides a framework for developing particular skills and knowledge relating to the work. The individual's conception of the work precedes and works as a base for the development of subsequent knowledge and skills (p. 9)

In education the student must 'master...knowledge and skills, they must learn to conceptualise the content in ways that are appropriate to the aims of education and to the profession' (p. 9). This means that generic skills must vary by discipline, and by the relevant profession or occupation. 'General notions of critical thinking or problem solving ignore what it means to think critically or solve problems in relation to particular content'.

This raises the question of transferability. The first three views of competence outlined above assume that competencies are attributes of individuals, and these individuals-attributes can be separated from the *tasks* being performed. In the view of competence as conception of the work, 'tasks and individuals are not seen as separate from each other. The relation between them is what constitutes competence' (p. 9). This puts the question of purpose at the centre of the problem.

The authors ask whether it is an appropriate role for 'educational institutions to be directed solely or primarily to the development of competence that is suited to the workplace'. They argue that this depends on the view of competence adopted (p. 9).

> If competence is seen as attributes to be acquired by individuals and required in the broad range of workplace contexts, educational institutions can never totally prepare students for the broad diversity of work.
>
> If, however, competence is seen as the way of conceiving issues and problems that are relevant to the professions and workplaces, then education can develop in students this form of competence. On entry to the workplace, the specific attributes that are required in each environment would then be developed within the broader framework of these conceptions. Such a focus for educational institutions would enhance the acquisition of specific skills, knowledge and attributes in the workplace and could be carried out in such a way as to avoid the undermining of broader educational aims (p. 9).

Department of Employment, Education and Training and the National Board of employment, Education and training, DEET/NBEET (1990), *Careers advisory services in higher education institutions*, tabled by the Hon. John Dawkins, Commonwealth Minister for Employment, Education and Training, December.

A report advising on ways to improve the careers information provided to students, and on building better links between graduates and potential employers.

Some of its recommendations to Government are that priority be given to research and developmental projects relating to careers education, 'that careers education be placed on the agenda fro institutional profiles discussions', that 'Government work with institutions and employers to improve the quality and dissemination of labour market data'.

To institutions it proposes that careers services are provided with a clearly defined mission, objectives and accountability procedures, and that institutions 'move progressively towards a minimum level of resourcing which in staffing terms translates to a ratio of approximately one professional and one support staff per 3500 EFTSU' (p. x). The report notes that it is critical that the institution's administration recognise 'the separate identity, role and resource needs of the careers advisory service' (p. 13).

One of the recommendations to the Careers Services themselves is that they 'develop close liaison with teaching staff for the mutual benefit of students, careers advisers and staff' (p. xi). The report mentions that employers believe that careers services have a role to play in the development of generic skills such as oral communication (p. 19).

Dodds, Agnes (1992), *Educational standards and the professions*, unpublished paper, Centre for the Study of Higher education, University of Melbourne, 18 June.

Dodds emphasises that 'it would be naive in the extreme to think that if competency standards and accompanying assessments are adopted by professions they will not influence the curriculum in fundamental ways'. The

paper is relevant mainly to the debate about competency-based professional education but has some more general implications.

Dodds draws out limitations of a competency-based approach given the importance of professional knowledge and judgement and points to some limiting effects of competency measurement. On generic competencies, she notes that while the use of specific competencies tends to pre-determine practice, generic competencies can't specify practice and tend to be uncertain in particular situations.

Dunn, J.G., Kennedy, T, and Boud, D.J. (1980), 'What Skills Do Science Graduates Need?', *Search*, 11 (7-8,) pp. 239-242.

This study was based on graduates from Western Australia. It is an interesting and useful discussion of the generic skills possessed by science graduates, and the relevance of these skills in the workforce. The article was written at a time of decreasing opportunities for general science graduates, and argues that future graduates may have to enter other fields so 'the range and type of skills that graduate scientists may need will be much broader and capable of application outside the discipline' (p. 239).

Both practising scientists and new graduates are surveyed, and each call for courses that better prepare 'oral/communication skills' and other vocational attributes such as the the capacity to work unsupervised, and leadership.

The authors conclude amongst other things that science courses need to change and that 'there is a need to evaluate courses in terms of their general educative processes as well as in specialist subject areas' (p. 242). They also call for better teaching and testing of written laboratory and report writing skills. Finally, they stress that 'what the authors have attempted here is to develop an argument for the need for tertiary teachers to take notice of market-place requirements, and then to examine how these might be incorporated into an undergraduate course' (p. 243).

Eggins, Heather (ed.) (1992), *Arts graduates, their skills and their employment: perspectives for change*, Falmer, London.

Eggins, Heather 'Making the connections: humanities, skills, employment', in Eggins (ed.), pp. 209-215.

In the study of generic skills in relation to the generalist courses, this is the most important recent British text. The book contains a major essay by Bradshaw, hard data on the experience of humanities graduates in the labour markets and on graduates' perceptions of the generic skills learned in their courses, and a number of lengthy comments by employers, including discussion of the desired attributes of graduate recruits, and of the broad employability of humanities graduates. It also contains information on some recent policy initiatives. Chapters mentioned separately in this annotated bibliography are those by Boys, Bradshaw, Findlay, Lyon and Perkins. The book generally supports the development of concrete measures to develop 'transferable skills'; some of the material also opens a critical approach to this notion.

In her closing chapter Eggins notes that the demand for 'transferable skills' is impacting curricula in the humanities: 'a growing number of new syllabuses have now been validated which prepare students for the world of work in various ways. Two such examples are the degree in history and politics at Huddersfield Polytechnic and that in humanities at Staffordshire Polytechnic' (p. 213). The push towards transferable skills is underpinned by 'the establishment of new knowledge on what skills students develop and how they develop them. Allied to this is a slow but surely developing dialogue between industry and higher education' (p. 214).

She argues that the humanities have retained their relevance in this context. In future more emphasis on interdisciplinarity, coupled with 'numeracy and information technology packages', might 'do much to prepare a student for entry into employment'. She concludes that the essence of higher education remains as 'tuning of the mind' (p. 215). This cognitive conception helps Eggins to reconcile traditional liberal approaches with the competency-based approaches to the humanities.

Elliott, John(1991), 'Competency based training and the education of the professions: is a happy marriage possible?', in Elliott, John, *Action research for educational change* Open University Press, Buckingham, pp. 118-134.

Elliott sees the competency movement as part of the 'widespread emergence of *fundamentalism* in the late 20th century'. It arose in the teacher education field in the United States as an adjunct to the liberal-humanist educational theories 'held to be responsible for the attitudes of the permissive society and its attendant evils' (p. 120). He believes that this approach has come to the United Kingdom in the form of the National Council for Vocational Qualifications, which in future could accredit teacher in-service 'enabling LEA's to by-pass higher education institutions which fail to come into line with the CBET model of quality assurance' (p. 120).

He calls for a non-behaviourist approach to competency education and training in order to generate

> competency models which are credible to both professionals (including teachers) and policy makers, because they will be both developmentally orientated and provide a basis for a system of quality assurance (accountability). The latter will aim to predict and control the quality of professional practice without predicting and controlling the specific actions and responses of practitioners (p. 134).

Ewens, T. (1979), 'Analysing the impact of competence competence-based approaches on liberal education', in G. Grant and Associates, *On Competence*, Jossey-Bass Publishers, San Francisco, pp. 160-198.

Ewen's chapter is part of a major study of competency-based education in America. The author supports competency teaching in liberal-arts if it is used to improve the outcomes of liberal curricula. He looks at the plans and results of this teaching at three United States colleges: Alverno, Mars Hill, and Harvard. In those institutions the desired outcomes invariably included attributes such as communication and social interaction skills. Ewens argues that the two basic requirements of 'a competence-based liberal education program are '(1) a statement of outcomes and (2) a statement of the standards or criteria by which those outcomes will be assessed (p. 195).

Ewens says that a competence approach to learning enables the teaching of traditional liberal formulas, usually in a better manner than in the past, and ensures that students actually understand the work and are able to use their skills practically, viz:

> The principles of logic, perspective, or grammar can be learned through instruction but to construct an argument or paint a picture or write a paragraph requires something more. In insisting that students not only know the principles but know how to use them effectively in practice, and in carefully and critically assessing their ability to do so, CBLE does well what is often done badly or not at all in more traditional settings (p. 195).

Findlay, Peter (1992), 'The Pegasus initiative: a case study in developing transferable skills', in Eggins (ed.), pp. 191-201.

The British Pegasus project was founded in 1985, funded primarily by public and private sector employers, with the aim of supporting academic institutions

> in providing students with the personal skills necessary for an effective transition from full-time study to employment. The initiative ... seeks to introduce integrated personal and career development work in the curriculum of higher education courses. Pegasus offers participating institutions a well defined, but flexible, course delivery mechanism for the development of students' transferable skills (p. 191).

Findlay outlines the work of the Pegasus program. It assists institutions to develop courses in transferable skills by providing access to start up funding, teaching materials and staff training. It operates on the basis of partnership between institutions and employers. Sometimes Pegasus courses are 'stand-alone' and not assessed, in other cases they are integrated and assessed as course modules, in other cases they are 'bolt-on' elements. Many participating academic staff argue that the Pegasus activities will only appeal to students when these activities are more fully integrated into the mainstream, but there is also concern that if integration occurred, explicit work on skills development would disappear. Pegasus works on the principle of 'disembedding' of transferable skills - making them explicit *and separate* from the mainstream curriculum, rather than relying on the inculcation of such skills as part of the normal academic course:

> It is a commonplace in discussions of the employment-related competences of new graduates that many higher education courses develop transferable skills in their students as part and parcel of their normal studies (for instance through the

> preparation, delivery and discussion of a paper in a seminar). It is the case, however, that in many subject areas, perhaps particularly in those such as the humanities and social sciences, which are not directly vocational, the student does not realise or recognise that they are acquiring such skills (in the seminar example they may be listed as, planning and time management , information gathering, analysis, formulation of an argument or case, writing up, presenting, understanding the audience, responding to questions, summarising, etc.) (pp. 196-197).

A typical Pegasus program might extend over one or two years of a student's course. There is a strong emphasis on self-assessment and on group activity, including simulations and business games. The key educational principle is learning through experience. The main transferable skills are identified as self-assessment, problem-solving and decision-making, planning, communication, teamwork, and transition to employment: the last includes analysis of trends in the labour markets, career paths, decision-making about career choice, and job application processes, including simulations.

Gale, Fay (1992), 'The competency movement: an expensive step in the wrong direction', *The Australian Higher Education Supplement*, 12 August, p. 22.

Gale argues that although there are some merits in the competence idea, it may come to dominate higher education to a degree that 'will defeat the actual goal, which is to achieve greater flexibility'. She also worries that competency could set in concrete ideas that may need to change as knowledge changes. The all-encompassing nature of some of the proposals now being put forward covers many areas and therefore increases 'the danger that flexibility and training opportunities will be reduced, not extended'.

Gale concludes as follows:

> Finally, I have a logical problem with the competency movement, albeit agreeing with it in principle: if skills can be precisely defined, identified and set up as definite competencies, are the humans possessing them amenable to replacement by robots? It is in the variable, unpredictable, creative, non-definable, non-quantifiable, arena that humans cannot be replaced. By reducing skills and competencies to do the definable

and quantifiable are we not also setting up those who have such precisely defined skills for replacement by robots?

Graduate Careers Council of Australia, GCCA (1992) *Graduate destination survey 1991,* GCCA, Melbourne

The most recent edition of the annual survey of the previous years' Australian graduates broken down into fields of study and employment and other destinations.

Hansen, W. Lee (1986), 'What knowledge is most worth knowing - for economics majors?', *AEA Papers and Proceedings,* May, pp. 149 - 152.

This is the study that Jackson and Page (see below) credit with prompting their study of political science. Hansen argues that an economics graduate should be able to show abilities such as

1. gaining access to existing knowledge
2. displaying command of existing knowledge
3. displaying ability to draw out existing knowledge
4. utilizing existing knowledge to explore issues
5. creating new knowledge (pp. 150-151)

Hart, David,(1990), 'The importance of the liberal arts to education: an historian's perspective', in Gibbs, A.M. (ed), *The relevance of the humanities,* Occasional Paper Number 8, papers from the Australian Academy of the Humanities symposium 1989, Highland Press, Canberra.

The author lists in detail the individuation characteristic of the liberal arts, and provides a list of the 'skills which I think a broadly based arts degree can provide' (p. 66). These include general literacy, information gathering, thinking skills and writing skills. All are seen as useful to potential employers, especially those employers who seek creative thinkers. It is assumed that the generic academic skills become attributes of the individual and are thereby transferred to work. He proposes certain reforms to arts to

enhance the production of these attributes, including a 'great books course' (p. 78).

Heinemann, H. (1992), 'Making education/industry interface work: new learning horizons', unpublished conference paper, VUT/AIM Education/industry interface conference, Melbourne, 9 September.

The author is a professor at the La Guardia campus of the City University of New York. His paper argued that in both Australia and the US 'there is a directed effort to bring about change in the education system'. Australia is more advanced in its debate and planning, especially in the developments suggested in the Mayer Report.

According to Heinemann, in the United States students are not prepared by their education for a rapidly changing workplace and world. He says the education sector must be built on a substantial economic basis, so the market-place cannot be ignored. Thus far this has not really been accepted in the American higher education sector.

Some educators fear that competencies might dilute the educative process. Both the SCANS and the Mayer Reports argue in favour of generic competences, and these should be developed through general education. Heinemann believes that we are witnessing a 'convergence of general and vocational education'. He says that educators should ask themselves how the things being taught are used in the day-to-day life of the student. 'Learning should be usable'. This is not new. John Dewey was arguing the same early this century. Heinemann also believes, however, that not all education is useful: some is 'miseducation'.

At present, both in Australia and the United States, two critical competences are not being spoken of. One is reflective thinking, which is important for accepting and using change to advantage. The second is the capacity for self-directed learning mechanism, which must become a generic competence that all should possess.

The author argues that competency-based education need not negate the other missions of higher education, including its cultural mission.

How are employment related competences to be delivered? At La Guardia (City University campus) students are required to do work placements as part of their courses. Some educators argue that students learn very narrow skills in this way but Heinemann argues that they learn specific

skills as well as the generic skills talked about by Mayer. These include how to work, what it's like to work, working in teams, using technology, communication. He refers to models used in adult education, such as calling on students to use their previous experiences and skills as part of learning.

It is important that teachers remember that many students have work skills from part-time jobs. They should be encouraged to recognise these skills and to question why the companies for whom they work (such as McDonalds) are so successful. Again, this is making education relevant to everyday experiences.

In conclusion, Heinemann argues that educators must take a leadership role in this area: other sectors should not be allowed to take over totally. Educators must assume responsibility for assessment techniques, and a partnership with industry must be created, that is two-way and built on respect. All of these changes will create the 'well-rounded, useful individuals that society is going to need'.

Higher Education Council, HEC (1992), *The quality of higher education: discussion papers*, National Board of Employment, Education and Training, Australian Government Publishing Service, Canberra, February.

A discussion paper by the Higher Education Council (HEC) that is accompanied by papers from the National Union of Students, the Council of Australian Postgraduate Associations, the Federated Australian University Staff Associations and the Union of Australian College Academics, and the Australian Vice-Chancellors' Committee.

The HEC focuses on 'the values the higher education system might encourage and the qualities it might instil in its graduates' (p. iii). Amongst the 'attributes' (including knowledge and skills) 'that will be of value to the graduates in their employment, in their wider social participation, and in their individual lives' (p. 8) are *generic skills*, which are defined as follows:

> These are skills that every graduate should be able to acquire regardless of their discipline or field of study. They would include knowing how to learn, to solve problems, to be able to think logically as well as laterally and independently, to be intellectually rigorous, to integrate information and to communicate effectively (p. 9).

While the HEC says that certain specific subject skills and conceptual skills can be defined 'straight-forwardly' as competencies, a point agreed by the AVCC (p. 71), some of these generic skills are not easily measured, including 'independence of thought, intellectual curiosity, higher-level conceptual skills and so on' (pp. 8-10).

> The complexity of the demands on higher education does suggest that defining its outcomes as a set of competencies is appropriate: that basing the curriculum on predetermined competencies, or a simple application of competency-based training or assessment methodologies, is not appropriate for higher education (p. 9).

The HEC emphasises the centrality of knowledge to the objectives of higher education. Graduates should achieve 'a properly educated grasp of the nature of knowledge, its development, its limitations, its applications, its life expectancy and the hypothetical nature of much of what passes for knowledge' (p. 10). The contributions of the different education organisations also emphasise the centrality of knowledge to the work of higher education (see for example p. 39, p. 71).

Higher Education Council, HEC (1992), *Achieving quality*, National Board of Employment, Education and Training, Australian Government Publishing Service, Canberra.

As in the previous publication on quality, the Higher Education Council (HEC) is concerned here with quality rather than competency *per se*, but some of the points are relevant also to the discussion of competencies. The HEC draws attention to the complexity of the outcomes of higher education (for example p. 43), and the range of 'stakeholders' with an interest in those outcomes, including both employers and graduates. The central roles of higher education lie in the education of social leaders, the creation and advancement of knowledge, and social improvement (p. 12).

In the preparation of graduates, not all of the desired attributes can be quantified, but all should be made explicit (p. 19). Whereas the knowledge they learn at university will change, graduates must be capable of learning throughout life. The generic skills are 'critically important'. They include 'critical thinking, intellectual curiosity, problem solving, logical and independent thought, effective communication and related skills in

identifying, accessing and managing information; personal attributes such as intellectual rigour, creativity and imagination; and values such as ethical practice, integrity and tolerance' (p. 22).

> They should represent the central achievement of higher education as a process. They will be introduced and refined in a subject-related context - indeed, it is only through the study of a body of knowledge that they can be acquired - but they will also enable the graduate to transfer skills between contexts. They are also an integral part of all levels of study in higher education; while an important part of undergraduate education, research training at postgraduate level takes these generic skills to an even higher plane (p. 20).

One of the purposes of acquiring a 'body of knowledge' is to refine the generic skills. 'perhaps the most important 'generic' skill that a graduate can possess is the ability to recognise that knowledge is provisional, that no answer is final, and that there is always pressure for a better way of doing things' (p. 41).

The HEC conflates its discussion of generic skills in higher education with discussion of the work-based generic skills identified by the Business-Higher Education Round Table, Stockwell and Associates, and others (pp. 22-24).

Some generic skills can be measured but some cannot. 'As we move from specific to more generic skills and abilities, their presence or absence is more a matter of inference than observation. this is especially true of higher order cognitive, conceptual and critical qualities' (p. 72). The shortage of resources hampers efforts to provide more complex assessment and to move to more individualised form of teaching (see for example p. 57). It is suggested that graduates themselves 'are in the best position to assess the extent to which their higher education has equipped them with transferable generic skills which support lifelong learning and adaptation to changes in their own careers, and in the world of work generally' (p. 40).

There is a danger that the competency debate could dominate the higher education agenda and this should be avoided (pp. 25-26). Nevertheless, some positive effects of the competency debate include the emphasis on objectives, realignment of course content to desired purpose, movement away from tight fit between standards and learning time (p. 28).

Jackson, M. and Page, B. (1990), 'Knowledge for What?', *Australian Quarterly*, Autumn, pp. 4-14.

The authors are both lecturers in the Department of Government and Public Administration at the University of Sydney, and the article describes the skills that they believe a graduate of a three or four year political science degree should possess. They argue that, as is often asserted by those in the field, political science graduates should be able to apply the knowledge taught at university to a range of situations including: working with 'political parties, government agencies, trade unions, research firms, lobby organizations, businesses, and so on' (p. 7). They question whether this objective is being achieved at present.

They create a 'list of competences for political science graduates, not distinguishing at this stage between three year pass majors and four year honours graduates', *viz*:

> The first competence is access to existing knowledge. The competence consists of locating published work on politics, government, public administration, and policy. It also includes locating relevant data, interpreting it, understanding how it was generated, and be able to see its limitations....
>
> The second competence is command of existing knowledge. Achievement of this competence means the ability to summarize the current situation in the political system, the principal political ideas of leading researchers in the fields of political science literature, and the dimensions of a current issue in public policy. This competence also requires the ability to explain key concepts and describe their appropriate use....
>
> The third competence is drawing out existing knowledge. This requires the ability to read and interpret both a theoretical analysis and an empirical study based on quantitative data in a professional political science journal. In this case interpretation is meant to include a critical appreciation of underlying assumptions....
>
> Fourth is the exploration of issues with the use of the existing knowledge. This competence includes the ability to prepare a five page written analysis of a current political problem and also a two page (or less) executive summary that recommends a course of action to a superordinate...
>
> The final competence is the creation of new knowledge. It is satisfied by the ability to identify and devise a series of questions about a political issue that would

be adequate to direct the investigation of the issue. It is obtained by the preparation and defence of a proposal for a research project (pp. 7-9).

This final competence would probably be the basis for an Honours level thesis. The thesis would be the outcome of this initial research. 'The thesis unifies the separate competences under review'.

The authors argue that these competences are not developed spontaneously during a degree: 'students do not develop these competences by indirection; they need to be taught' (p. 9). They can be developed incrementally with some coming early and others 'reserved for later years'. Jackson and Page say that by insisting on the inclusion of these competences, the authors are not advocating 'that traditional teaching methods be abandoned. Rather, we suggest the competence approach should be added to the traditional teaching mi , requiring, admittedly, that some of our teaching be recast' (p. 11).

Johnes, G. (1989), 'Graduate employment: some new evidence', *Higher Education Review*, 21, (2), pp. 63-71.

A British study based on results of 1980 National Survey of Graduates and Diplomates. It looks at the employment destinations of graduates from various disciplines.

Johnes finds that students from vocationally-specific areas tend to get jobs in these fields while those who had 'studied less specifically labour market oriented subjects appear to have engaged in some amount of 'job shopping'' (p. 68). These graduates, as a result, tended to 'develop specific skills at a later stage' (p. 71). He concludes therefore that verbal and written skills were/are recognised by employers as useful attributes in potential employees.

Kaneko, M. (1992), 'Continuing education of graduates', from Research Institute for Higher Education, Hiroshima University, *Higher Education and Employment in Japan*, pp. 52-83.

The author begins by debunking some of the myths about Japanese work practices. First, studies are cited which suggest that the concept of lifetime

employment in Japan is not pervasive, rather it is atypical p. 55). Second, to the extent that such a situation does exist, it is no more widespread than in the USA or Europe (p. 55). The assumption, outside of Japan, about this phenomena of life-time employment has given rise to the alleged 'Japanese model' of in-house training, and industrial relations.

Kaneko traces the training systems of some major Japanese companies. Training generally involves 'recruitment and initial induction training', 'mid-career training', and 'speciality training and self-development programs'. The first involves an 'emphasis upon company specific experiences and knowledge'. The second takes the form of On-the-Job Training (OJT), involving job rotation, and is 'in many ways a continuation of the initial training'.

> Typically, a college graduate from the social sciences or humanities departments are hired by business firms without clear job specifications. He or she would then be intentionally exposed to various functions of the firm which do not necessarily have direct relations to their training. The underlying idea for such a practice is to create a worker with adequate understanding of how the firm works. As his or her career advances he would be promoted to some form of managerial status. The managerial position is considered more as a position in the power hierarchy than as a specialized job. Exposure to various aspects of the corporate function helps the worker to be a more effective manager (p. 61).

This rotation is more likely to occur in companies with more than 100 employers. Off-the-job training involves doing courses in areas 'geared to provide specialized knowledge or skill'. This can include sales techniques, business law or accounting. It may also involve study in 'advanced subjects related to state-of-the-art technology' (p. 64). All of these subjects are done in-house. Courses done outside the company may involve things such as courses in liberal arts and culture. These are considered to 'be related to work, for they include a large number of foreign language courses'.

Kaneko cites a survey of firms that suggests that they regard 'innovative ideas and imagination' and 'international perspective' as becoming the most important factors to be obtained through in-firm training in the coming years (p. 71).

Kinsman, Martha (1992), 'Competency-based education in TAFE', in The Australian National University, *Higher education and the competency movement*, pp. 25-49.

A broad-ranging and informative paper on the implications of the introduction of competency-based reform in TAFE. Kinsman argues that TAFE has had a long association with competency-based approaches, but TAFE's acceptance of the present round of reform 'is not axiomatic but problematic', and there are both differing forms of competence in TAFE, and differing responses to CBT within TAFE. Considerable detail is provided on all of these points.

Kinsman is concerned that the educational - rather than the economic - dimension of competency reform has been largely overlooked.

> Like most TAFE educators, my own position is broadly supportive of an essentially competency based approach on the grounds that it enhances access to knowledge and opportunity. However and paradoxically, both the current vogue in CBT 'systems' and much of the opposition to it, have in common the desire to limit access and opportunities to those whop are not of their respective chosen 'order' (p. 49).

Light, Alison (1990), 'Two cheers for liberal education', in Brooker, Peter and Humm, Peter (eds.) *Dialogue and difference: English into the nineties*, Routledge, London, pp 31-42.

Light's article looks at the effects of funding cuts during the 1980s on the pursuit and teaching of liberal education in British schools and universities. She does not, however, adhere slavishly to the idea that the liberal arts are inherently good. She says that for all its faults, which include its tendency towards the bourgeois and its complacency, the liberal arts do 'at least recognize that learning is more than the process of swallowing facts, teaching more than the inculcation of skills' (p. 34).

Light claims that the dichotomy between the liberal arts and 'useful' subjects is not as great as it is made out to be. There must be disagreement between those who wish for a return to old style liberal education and those who wish to see many of the arguments of the 1960s about human worth etc. included in the educational agenda. The debate must not be allowed to

become simply one between the old agenda and the new economic-centred agenda.

Loton, Brian (1992), 'Graduate education from an industrial perspective', unpublished speech to an Australian National University Graduate School forum, 9 September.

Loton's speech centres on a call for an improvement in the skills base of graduates and an improvement in quality. Quality is seen as the issue of the 1990s:

> From where I stand, participation rates are less critical than questions of quality, and whether we are producing the right mix of graduates of the various disciplines to meet future needs (p.2).

Loton goes on endorse the view of the 1990 Senate Standing Committee on Employment, Education and Training which argued that quality of education was crucial. To him the 'most crucial questions involve what they learn, how effectively they are taught and how well prepared they are to live and work in a world of rapid change' (p. 3). He again cites the Senate Committee in relation to the skills graduates need and goes on to argue that business will increasingly be 'looking for engineers, accountants or marketers with language skills, an openness to other cultures and various other attributes'. Graduates will also need

> qualities such as critical thinking, intellectual curiosity, problem solving, independent thought, effective communication and the ability to work in a cooperative manner as a member of a team (p.6).

In order to achieve these broader skills in graduates, Loton calls for the consideration of 'a common first year or an additional year, so that tertiary studies encompass the humanities, and science and technology components in all courses' (p.7).

Lyon, Eva (1992), 'Humanities graduates in the labour market', in Eggins (ed.). pp. 123-143.

Lyon provides a comprehensive overview of humanities graduates in the British labour markets, finding that some changes are needed in the humanities curriculum 'to accommodate student needs in the labour market', but there is also a need for 'greater awareness by both employers and politicians of the aspirations and orientations of humanities graduates' (pp. 123-124).

Many humanities students are enrolled in their courses for the 'intrinsic rewards' involved, rather than vocational purposes. Compared to other students, they are more likely to be 'altruistic' and 'inner-directed', and to be mature age students. They agree with other students about the importance of preparation for work as one of the functions of higher education, but they are less clear on what job they want, and are slower than average to enter full time employment (p. 129). Humanities graduates also face a gender-segmented labour market associated with a narrowing of opportunities for them (p. 127).

> The HELM Graduate Panel Surveys show that for all graduates, but especially for graduates with degrees without well-defined occupational objectives, the first few years after graduation are a period of transition and change, characterised by varieties of short-term employment, vocational study, interspersed by periods of voluntary or involuntary unemployment, which together make up the process of trying to find more desirable work. Humanities graduates take longer and experience more job changes than many other students before they find a job in which they wish to stay (p. 130).

In graduate unemployment, the differences between universities and the (then) polytechnics is greater in the less vocational subjects (p. 131). Of the 1982 humanities graduates who go on to postgraduate studies, only one third saw that study in direct relation with their previous degree course. 'Though not necessarily 'retraining', some postgraduate education could perhaps be described as 'conversion' (p. 132). Surveys of humanities courses reveal a relatively high level of satisfaction with their course, although 'the graduates do not on the whole feel the content of their degree course has been of value in employment' (p. 135).

Turning to generic skills and employability, Lyon argues that the orthodox claims about generic skills are fostered in the normal academic processes, and should not be separated from subject teaching, amount to a

'happy coincidence' theory of generic skills training. She says that this may work for some intellectual and personal skills, 'but there are some kinds of skills, both social, personal and intellectual which unless *positively* defined as relating to the work roles envisaged for particular graduates do not appear to be learned as a by-product of good teaching and learning practice in individual disciplines'. Spoken communication is one, interpersonal and social skills, and cooperation, leadership and the exercise of responsibility - all 'social skills - are others. Humanities graduates also lack numeracy and computing skills (pp. 137-139).

Despite these difficulties, humanities are here to stay and will continue to play an important role as both generalist (pre-vocational) courses, and courses particularly associated, to some, with certain generic skills. Nevertheless, her summation is that 'the concept of a 'liberal' education may have to change to include knowledge and skills traditionally not seen to be in its domain in higher education' (p. 141).

Matchett, S. (1992) 'Quietly banking on competency', *Australian Higher Education Supplement*, 12 August, p. 22.

Matchett's article surveys the training system within Westpac. The bank openly employs a competency-based approach to its in-house training, but this 'definition of competency is broader than a narrowly defined task ability'. The Westpac approach, according to one of its managers, is 'very much concerned with attitudinal inputs as well as the task-skill inputs'. Another managers argues that 'in defining competency, the bank looks to attitudes, beliefs and behaviour as well as skills and knowledge', because, 'when you look to discover what distinguishes superior performance in a job, you need to consider these broader issues'.

Although the bank does have a formal definition of competency for each broad job classification in the organisation 'the only constant is change, and as job classifications change ... you have to ... ascertain whether the competencies you stress still suit the strategic direction of the business'.

Mayer, Eric, Committee Chair (1992), *Employment-related key competencies: a proposal for consultation*, report of the Mayer Committee, Melbourne.

The Mayer Committee was set up by the Commonwealth and State and Territory Government Ministers of Education and Vocational Education and Training (AEC/MOVEET), in order to develop the notion of generic competencies for use in education and training. It specifies seven areas of generic competency in the form of Key Competency Strands [see Table 1 main report], together with a system of measurement involving three levels of performance for each, for use in schooling and TAFE.

The Mayer competencies incorporate knowledge as well as skill, and involve 'both the ability to perform in a given context and the capacity to transfer knowledge and skills to new tasks and situations' (p. 4).

Meredyth, Denise (1991), 'Personality and personnel: rationales for the humanities", in Hunter, Ian. et al, *Accounting for the Humanities.* Institute for Cultural Policy Studies, Griffith University, Brisbane, pp.117 - 189.

A chapter from the *Accounting for the Humanities* collection that is particularly relevant to this study because the detailed empirical analysis of relations between humanities and work is coupled with critical reflections on the differing discourses about the roles of the humanities (on the latter, the chapter by Ian Hunter is also of considerable interest). There is some historical material, and Meredyth looks at employment practices as well as what happens inside universities. Meredyth has chosen a complex terrain, but negotiates it with great insight. Her work is one of the starting points for a reappraisal of the humanities in Australian universities.

She finds the traditional defences of the humanities based on a rhetoric of 'absolute and dialectical oppositions - the opposition, for example, between liberal and utilitarian goals, or between culture and government' (p. 117). A crude unity of these opposites is no more convincing:

> Despite efforts to produce more pragmatic rationales, current apologists for the humanities tend to repeat these circular claims and disclaimers. Aiming both to placate the academy and to impress policy-makers, they stress the co-existence of liberal and vocational elements within humanistic teaching, pointing out that it is quite possible for the ethic of the scholarly pursuit of truth to coexist with vocationally pedagogic goals (p. 152).

Meredyth does not subject the notion of essential or transferable skills, or the notion of the indirect 'utility' of the liberal arts, to closer scrutiny (despite her sense of site specificities in work and education). She notes the role of study in the the humanities disciplines in promoting 'a range of desirable vocational capacities including data analysis, computer, archival, proof-reading and media production skills, familiarity with clear writing, close reading and explication, confidence in verbal expression, and communication, problem solving, and collaborative and independent work practices' (p. 119). She traces the vocational outcomes of humanities graduates, with emphasis on public employment, arguing that:

> The available evidence on graduate outcomes from the humanities gives little substance to sanguine expectations of a direct link between humanistic education and public leadership, but it does support more modest observations concerning the flexible nature of humanistic training... although Arts graduates may not proceed to to the career destination of their first choice, they are far from unemployable, being recruited to an expanding range of occupations within the public and private sector (p. 155).

> There are certainly grounds, then, for a case that the preparation of trained and partially-trained personnel for government and semi-government agencies is a central function of the humanities. However, it is important to note the distinct differences in the proportions of recruits from different disciplines. Those with a background in History, Social Science or "Mental Science" are most likely to be recruited, followed by those with Language or Political Science training. Although significant percentages of other Arts graduates are also employed in administrative and clerical work, most notably those with training in Welfare Studies, Sociology, Political Science, Geography, Psychology, Communications and Journalism and Linguistics, those who are most likely to receive rapid promotion are also possessed of Law or Economics qualifications (pp. 160-161).

After looking at the attributes employers claim to look for in graduates, and at the induction and training manuals for both regular workers and managers, referring to terms like being 'methodical', 'able to work as part of a team', 'accurate' and so on. Meredyth finds that: 'there is certainly a case to be made that the development of such work habits should require little adjustment from a good Arts graduate inured to scholarly work - a case

which appears to be corroborated by the high number Arts graduates within the middle range of the public service' (p. 173).

Millett, A. (1992), 'Set for the start of a promising career', *The Age* Graduate Careers Guide, 6 October, p. 8.

An employer's contribution to the *The Age* Graduate Careers Guide for 1992. Millett is the President of the Australian Association of Graduate Employers. He provides a guide to what employers look for in job applications and in interviews, arguing that 'employers do not employ academic results. Nor do they employ resumes, appropriate experience or interviews. But employers *do* employ people. They look for complete, well-rounded applicants when they are recruiting', those with 'well-developed interpersonal and organisational' and other skills. He suggests that demonstrated experience in running sporting or social clubs is one way of showing these abilities.

He also calls for graduates with well developed written communication skills. Employers complain that they are 'disappointed at the poorly developed written skills often shown' by new graduate recruits.

Mulcahy, Maria Ann (1992), 'Reviving the lost art of communication', *Australian Campus Review Weekly*, 8 - 14 October, p. 11.

Mulcahy describes a new program at the Queensland University of Technology (QUT), called 'Writing across the curriculum'. The program has recently been set up in order to improve the writing skills of graduates. Designed by a British educator, James Britton, the program have been operating in Great Britain and the United States for more than twenty years.

The QUT program, which was launched with a $45,000 grant from the university, starts from a recognition that today's graduates are required by employers to have 'excellent communication skills'. Co-ordinator of the project, Roslyn Petelin, believes that students need to learn to focus their writing and be aware that 'job applications target employers and must be written to communicate the skills and qualities of the applicant to the employer'.

The project hopes that all courses in the university will integrate writing 'so students will learn the fundamentals of critically evaluating their

work and have the ability to edit, revise and recognise the importance of using strong active language ... some of the teaching will involve tutoring students in the skills they have not developed at school but essentially it will build on their basic knowledge'.

National Board of Employment, Education and Training, NBEET (1992), *Survey of Skills Required of Graduates*, Commissioned Report Number 20, survey conducted by Stockwell and Associates, NBEET, Australian Government Publishing Service, Canberra.

A study undertaken by Stockwell and Associates for NBEET as part of 'the review of the quality of higher education in Australia'. The survey involved collecting and analysing the content of newspaper advertisements for graduates to ascertain what 'qualifications, experience, skills and personal qualities [are] sought by employers' when recruiting graduates'. The second part of the survey involved finding out from employers whether their expectations were being met. The study found that

> communication and social skills are the key skills requested by employers of both new and experienced graduates. Generally, new graduates are considered to be lacking in these skills, and they are also considered to have limited ability to apply heir academic learning to the workplace (Executive Summary).

The newspaper survey found that the top 12 skills requested by employers were: oral communication, written communication, managing, analytical, leadership, computer, interpersonal, teamwork, research, supervision, organising, and negotiation (p. 15). Oral and written communication skills were by far the most sought after skills in graduates. The most sought after attributes were motivation and initiative. The authors argue that skills are by far the most important group of characteristics to employers, and these are characteristics that can be taught' (p. 16).

The second part of the survey involved questioning 80 employers about their opinions on new graduates. They found that 90 per cent of their respondents 'use academic results to select new graduates'. The top 14 selection criteria applied to new graduates were: academic results, oral communication skills, ability to work in a team, interpersonal skills, initiative, conceptual and analytical ability, flexibility/adaptability, enthusiasm, written

communication skills, willingness to learn, achievement orientation, presentation skills, relevant work experience, and tenacity (p. 21). The authors find that 'academic results are easily obtained and provide a convenient way of comparing candidates who are professionally qualified. Academic results may also be seen by employers as being indicative of a candidates' analytical ability, current knowledge, ability to learn, and achievement orientation' (p. 21).

But while academic results are used as initial sorters, by the time of the final selection, they play less of a role. At this stage employers tend to be more influenced by interpersonal skills, oral communication skills, and presentation at interview (p. 21). A further section dealing with the skills employers perceived to be lacking in graduates found that among their sample

> initiative, management skills, cultural awareness/sensitivity, teamwork, business skills, a pragmatic/practical approach, work experience, integrity, self-confidence, self-motivation, decision-making skills, leadership skills, time management and organisational skills were 'mentioned by more than one respondent' (p. 23).

This means that some of the same generic skills used as decisive selection criteria in a highly competitive selection process were the skills found missing after the graduates started work. This suggests something about the shifting and ambiguous identity of generic skills

In conclusion, the authors argue that the implications for the higher education system are that the higher education system should provide greater opportunities for students to develop their communication and social skills, and their ability to apply academic learning to the workplace. 'For this to be successful, employers and the higher education system need to consult on how this might best be achieved, and to agree on areas of responsibility for training and development' (p. 26).

Nicholls, D. (1992), 'Making history students enterprising: 'Independent Study' at Manchester Polytechnic', *Studies in Higher Education* 17 (1), pp 67-80.

An outline of the 'Independent Study' unit run in the History Department of Manchester Polytechnic, by the Head of that Department. The Independent

Study unit involves students volunteering to do part of their degree by working in industry. The program came out of the British 'Enterprise in Higher Education' scheme. Nicholls argues that the scheme was developed in order to better prepare history students for the workplace, while not detracting from the traditional degree, which has long given students abilities recognised and appreciated by employers.

> 'Independent Study' was developed with the intention, therefore, not of abandoning the traditional concerns, which were still perceived as central to an education in 'humanities', but with supplementing them, and in the light of the knowledge that history graduates have been welcomed into a multiplicity of careers (p. 69).

The program involves students going into industry and the public sector and carrying out tasks, such as creating and documenting archives, cataloguing business and council records, and similar history-related tasks. The work is usually written up in report form - sometimes published - and acts as assessable curriculum work. Nicholls argues that the program aims 'to extend the educational experience of students by emphasising practical work and new skills that they would be unlikely to encounter in a conventional degree programme' (p. 70). By doing the program students are likely to develop the following competencies:

Technical skills:

* good study habits;
* self-organisation and the ability to work effectively without supervision;
* reading, listening, and observation skills;
* research techniques;
* ability to learn quickly;
* punctuality, and meeting deadlines;
* a better understanding of the structure of the workplace and the ability to adjust to it.

Communication:

* collect and record data;
* process data and reach conclusions;
* numeracy;
* word-processing, desk-top publishing, and data base skills;
* capacity to negotiate with third parties;

* capacity to work effectively as part of a team and co-operate with others.

Analysis and evaluation:

* identify problems and respond to them;
* recognise unstated assumptions;
* demonstrate a capacity for imagination, creativity, and critical thinking;
* evaluate reliability of materials and arguments;
* organise materials and present in new forms;
* formulate conclusions and assess alternative explanations (pp. 70-71).

All of these skills, the author argues, have helped to enhance the employability of students, and in some cases offered them the possibility of a permanent job (p. 78).

Norris, N. (1991), 'The trouble with competence', *Cambridge Journal of Education*, 21 (3), pp. 331-341.

An important and influential critique of the use of a competence-based approach to education and training. Norris notes the appeal of competence in the present policy context, but also that 'we have been there before and others have been there before us' - the movement for competency reform seems almost cyclical.

Norris is writing about competence in the professions but the argument has more general implications. He runs through the problems of measurement and inference, including the implications of the behaviourism used in the measurement of competencies, and the assumptions about essential levels of knowledge or skill.

Norris notes that competence is 'assessment led in that it is usually associated with a statement which defines performance criteria and expected levels of performance'. In competence 'there is nothing as imprecise as precision'. In competency measurement 'there is a massive mismatch between the appealing language of precision that surrounds competency or performance-based programs and the imprecise, approximate and often arbitrary character of testing when applied to human capabilities' (p. 336); in the case of generic competencies, these problems are magnified. Further, the arbitrary character of testing may inadvertently impose limits the development of skills and attributes, because neither the definition of

competencies nor the systems of competency testing can anticipate everything that could be achieved. In 'the effort to describe competence in precise, transparent and observable terms, to predict the specific outcomes of effective action, what is in effect happening is the pre-determination of good practice (p. 334).

> The precise specification of performance or outcomes rests on and leads to a mistaken view of both education and knowledge. Mistaken because there is a fundamental contradiction between the autonomy needed to act in the face of change and situational uncertainty and the predictability inherent in the specification of outcomes
>
> If the assessment of competence presents difficulties of standards settings this is in part because the relationship between standards and good practice or best practice is not at all straightforward. Like theories standards are always going to be empirically under-determined. What is worrying is the extent to which they are not empirically determined at all, but are rather the product of conventional thought. Even if this were not the case the pace of economic and social change suggests that standards once set might quickly become obsolete (pp. 335- 336).

Norris uses formal logic to critique the reasoning about inference that is often used when talking about competence. He lists some typical generalisations used in competency policies, none of which (and especially the last two) have a secure grounding in logic:

> The shift from the assessment of knowledge to the assessment of performance changesthe context of inference but it does not eliminate inference as a problem. For example, if performance in a particular range of situations is taken of evidence of more general underlying ability, then the generalisations that this kind of inference could refer to can be represented as, *S* did well at *x* therefore (i) *S* should do well at the next *x* in a similar range of situations; (ii) *S* will do well at things similar to *x*; (iii) *S* is good at things belonging to the range of activities *x.1* to *x.n*; (iv) *S* is good at the class of things to which *x* belongs; and (v) because *S* is good at *x* she will also be good at *y* (Norris 1991: 336-337).

To Norris what is wrong is 'the assumption that the assessment of knowledge or performance, taken together or separately, can cope with the range of context dependent and contingent nature of professional action'.

That which is considered to be competent in one cultural context may not be so in another, and this suggests the use of the 'ethnographic approach'

to competence, where 'good practice is defined in relation to the local *occupational and organisational culture', rather than generics* (p. 337). Here Norris is close to the position adopted by Sandberg and Dall'Alba. He concludes that the competency concept 'now has a currency way beyond its operational or conceptual reach' (p. 339).

Penington, David (1992), *The competency crusade and education: meeting society's needs*, address to the 'Manufacturing outlook' conference, 25 September. University of Melbourne, Melbourne.

Penington provides a detailed critique of educational, economic and political assumptions and strategies associated with competency reform. He argues that competency reform imposes over-regulation, would lead to unnecessary rigidities for both business/industry and education institutions, may lead to less rather than more flexible employees, and privileges current work practice rather than encouraging innovation.

He draws attention to the problems of inference and is critical of the notion of decontextualised competence and the reliance on behaviourist measurement inherent in most competency-based approaches. He concludes that 'education and training have much to offer in Australian industry if viewed realistically and allowed to develop on sound pedagogical principles' (p. 16).

Penington, David (1992), *What de we mean by tertiary education? The university perspective*, address to a national conference on 'What do we mean by tertiary education', Melbourne, 16 December.

Continuing his critique of the competency-based approach, Penington describes it as 'a 'behavioural nightmare' of centrally controlled minimum standards, linked to industrial agreements and remuneration. It is the very antithesis of flexibility, excellence, quality and innovation' (p. 2). 'Australia cannot afford to follow, in a slavish and unthinking manner, the mistakes made and recognised in the United Sates in the 1970s and now being repeated in the United Kingdom' (p. 12, also pp. 6-7).

After reviewing the situation in the professions, he says in relation to the arts and sciences:

What about university education outside the professional faculties? The problem here is that a competency-based approach ignores the value and the importance of knowledge. it is sometimes argued that the value of an arts or science degree is the development of generic skills, such as problem solving. While such skills are undoubtedly acquired inthe course of a generalist degree, they are not the essence of such a degree. The essence of a generalist degree is the acquisition of a thorough knowledge of a particular field and an understanding of how that field relates to others in a particular discipline .

Moreover, 'generic skills' are not nearly so transferable from one field to another as is commonly assumed. Consider the highly sought-after ability to solve problems. Much recent work on problem-solving in knowledge-rich domains shows strong interactions between structures of knowledge and cognitive processes (pp. 5-6).

These problems of the competency-based approaches arise in TAFE and industry training as in higher education: 'all vocational education should include theoretical education in addition to training if we are to have a work-force capable of innovation, of striving for new ways to achieve higher quality and to improve productivity' (p. 6, see also p. 9).

Perkins, Helen (1992), 'Association of Graduate Recruiters', in Eggins (ed.), pp. 27-35.

The author is Chair of the Association of Graduate Recruiters and the Head of Management Development (Europe) for Price Waterhouse. She notes that about half of all graduate opportunities are open to graduates from any discipline, 'so long as they demonstrate the requisite composite of broader personal skills'. These include communication skills, presentation skills, conceptual ability, problem analysis and solution, team working, leadership, numeracy and verbal reasoning: 'communication skills tend to be at the top of most employers' lists' (pp. 27-28).

Whereas some people in higher education argue that these skills should be provided by employers, many students do not hold this view.

There is a growing interest in higher education and amongst employers in the concept of students graduating, not just with their degree certificate, which provides

a measure of their academic and intellectual ability, but also graduating with some ssessment of their competency in the personal skills area ....

The most valuable step forward would be for the students to develop a better idea of their own personal skills competency. This will help them present better at interview and during the selection processes where probably many graduates underestimate or fail to make enough of their abilities. it would also give them the onfidence and the direction to make the best use of the training and development opportunities that are open to them once in employment. From the employers' point of view more undergraduate training in these areas will in no way decrease their training needs (p. 29).

Perkins says that even during the then period of reduced demand, employers would continue to employ arts and humanities graduates who are 'a rich source of talent and ability' (p. 35). Their employability is enhanced when they have numeracy and computer skills, however.

Porter, Paige, Knight, John, Lingard, Bob and Rizvi, Fazal (1992), 'Competence for a clever country: building a house of cards?' *Unicorn* 18 (3), September.

The authors attack what they see as 'the current relentless march towards 'one best solution" of competence in the education and training debate. They see the whole competence debate as an offshoot of the current economic debate in Australia, arguing that it involves a push towards uniformity, standardisation and bureaucratic encroachment' which they say has become 'hegemonic' (p. 52).

Together these developments represent the most systematic attempt ever seen to restructure education provisions in Australia around a set of principles which are fundamentally governed by economic discourse. What is being proposed is a new vocationalism, a new way of viewing the relation between education, training and work (p. 52).

Porter et al question whether there is such a thing as generic competencies, questioning whether the Mayer competency 'language and communication' can be decided out of context. They see this as an equity problem because the acquisition of such skills and their use must be relevant

to the social background and situation of the student. This factor cannot easily be tested (p. 56). The authors are also concerned that the competency agenda will simply be added on to the academic curriculum 'up to a point, after which young people heading toward elite status do the 'real' academic curriculum. If this were to happen, we will have generated a new streaming in schools and post-compulsory education, with a more clearly defined vocational route and another academic route' (p. 57).

The authors agree that links do need to be forged between education/training and the workforce, and that having more 'fluid education and training structures' can improve equity access, but question whether the CBET agenda is the right solution. They see it as a simplistic solution to some of Australia's long-term economic and social problems. 'It is not helpful in the long run to frame those problems in such narrow terms' (p. 58). They argue that the competencies agenda is a 'house of cards' and is likely to collapse under its own contradictions. Their solution is to 'reconsider the educational agenda in terms of its cultural and social, as well as its economic, orientation' (p. 58).

Priestley, Alan (1992), *An Integrated approach to education and training*, unpublished conference paper, VUT/AIM education/industry interface conference, Melbourne, 9 September.

The author is the Manager Education and Training and Personnel Services at BHP. He argues that business basically in favour of a competency approach for both technical and general graduates. He sees the higher education sector as being too prepared to consign it to TAFE, even though higher education has been involved in vocational education for decades. An unwillingness to focus on broader skills of graduates, rather than micro-skills and tests has led some people, especially in higher education, to see competency-based training as a threat to their field; it is not.

Competency based education allows graduates to elucidate their skills to employers during interviews, and thus improve their chances of employment. Further, the changes proposed to the training agenda will allow universities to focus on their outcomes and to address issues such as course structure, teamwork, and work experience within their courses. This can only help students in their search for work.

Priestley says that at present BHP is satisfied with the standards of graduates, but it must be noted that the company is very selective with its recruits. It chooses them not on academic results - a high standard is assumed - but on interview technique, communication skills, interpersonal skills, and so on. Priestley believes that these should be taught as part of the curriculum, especially to science students. Those non-science subjects currently available to science graduates should be made more relevant to business and employer needs.

For Arts graduates generic competencies are absolutely vital as a means of helping them overcome the difficult hurdles they already face in gaining employment. This implies a move toward some form of written recognition of the skills a graduate with a generalist degree possesses, somewhat along the lines suggested by the Mayer Committee.

Public Service Commission, PSC (1992), 'Administrative Service Officers Classes 1-4, draft core competencies' March, PSC, Canberra.

The draft lists eight major competencies required of staff with ASO1 to ASO4 duties: dealing with people, managing individual performance, communicating with others, organising to achieve results, making efficient use of office technology, finding and using information, applying knowledge to work, working with numbers.

Public Service Commission (1991), 'Senior officer structure core competencies', revised draft August 1991, PSC, Canberra.

These are draft core competencies for the Senior Officer Structure of the Public Service, issued in August 1991. The 'paper describes those units and elements which are common to the Senior Officer Structure including professional/technical equivalents in the APS. These core competencies are specifically intended to be used in the context of middle management training and development programs'. The competencies include: understand and deal with the context, achieve results, lead and manage people. manage change, demonstrate personal effectiveness.

Public Service Commission (1992), 'Administrative Service Officers 5-6, draft core competencies', May 1992, PSC, Canberra.

These core competencies revolve around five basic units and elements, described as follows: interact with others; manage own performance; plan and manage resources; research, analyse and apply information; lead and develop people; adapt to and implement change.

Rachinger, D. (1992), 'On a journey of discovery', *The Age* Graduate Careers Guide, 6 October, p. 7

The author is a careers adviser at the University of Melbourne. She believes that because of the recession new graduates have to be well-informed about career options open to them. Employers are 'increasingly seeking graduates who can demonstrate flexibility, adaptability and the potential to contribute to the organisation in a range of capacities'. Graduates, therefore, must be able to convince employers that they can do this. Rachinger argues that part of the process of being able to find a job is to engage in self-appraisal in order to identify one's 'specialist skills, knowledge, interests and values. In doing this, she believes,

> an arts graduate may identify highly developed management and training skills gained through part-time retail work, recreation planning abilities acquired through youth group leadership or even a specialist knowledge of antique clocks stemming s imply from an avid interest, all of which could be marketable to a variety of employers.

Science graduates on the other hand are 'increasingly recognising that they have more to offer than simply scientific knowledge...that their personal qualities and demonstrated interests can equip them for a career in business for example'. Such self-knowledge is seen as one of the few good things stemming from the recession. The author believes that because they have gained this insight into their own abilities, today's graduates will be well-equipped to plan their careers throughout their lives.

Ruby, Alan (1992), 'If Freeman Butts calls tell him we mind be changing course': a perspective on the notion of competency and Australia's schools, in Economic Planning Advisory Council, *Education in the 1990's; competencies, credentialism, competitiveness?*, Australian Government Publishing Service, Canberra, August, pp. 43-52.

Ruby's paper sketches part of the 'big picture' of post-compulsory education policy, dealing with issues of participation, selection, curriculum differentiation, specialisation, assessment and recording of achievement.

The Finn report (1991) and the Mayer report constitute a fundamental shift in the framework of assumptions in two respects: the goal of near universal participation to the end of Year 12, or equivalent, and the emphasis on employment related competencies. Ruby summarises the development of the notion of key employment-related competencies, through the Finn and Mayer reports, pointing out that

> If the competencies are defined so they are principally associated with vocational destinations they will appeal only to a small proportion of the cohort, thus creating problems of differentiation and specialisation. In school settings they would become marginalised in curriculum design and delivery and be a low status outcome. This would frustrate the broader goals advocated by Finn and associated goals of articulation between pathways and credit transfer (p. 48).

The key competencies are seen as having 'immediate relevance' for entry to employment from school or entry level training, and also 'for young people going on to further study'. The normative framework is that of universal transfer of credit:

> One of the benefits of a competency based approach is that it increases opportunities for young people to move, without penalty, between education, training and employment. It provides the basic agreed standards of performance and consistent approaches to assessing and reporting on achievement that underpin this increased mobility. This means that an individual's decisions about initial education and training do not precludelater articulation into some other programs or institutional settings. There are both individual benefits and national efficiencies in such arrangements' (p. 49).

'We might be changing course and bringing post-compulsory education and training together for policy purposes. This would be a significant and enduring shift in the way we think about and go about preparing young people for work and further education' (p. 52). Ruby notes that 'training and school education have equal value in, and equal responsibility for, delivering the key competencies' (p. 48). Nevertheless, he notes that

> The assumption is that the competencies have the same value no matter where they are acquired because they are expressed in the same way and assessed against the s ame performance criteria. This may be an arguable assumption because of the influence context can have in assessment practice. Balancing this concern is the equity benefits of recognising prior learning and learning from informal and non institutional settings that comes from generalising the competencies across settings (p. 48).

To Ruby the key competencies are not disciplines or subjects, but 'ways in which knowledge and skills are applied in work situations' (Mayer 1992: 11). 'Hence while their acquisition is dependent on gaining foundation knowledge, it is not dependent on the study of a particular subject in post-compulsory education and training' (pp. 48-49). The Key Competency Strands can be developed in many settings, and Ruby argues that in schools, it is possible to construct versions which are not workplace dependent. Assuming transferability, he argues that ''being able to explain a set procedure so that others can carry out the procedure successfully' can be modelled, practiced and evaluated within a science or drama lesson just as readily as it can in a workplace' (pp. 49-50).

Sandberg, Jorgen (1991), *Competence as intentional achievement: a phenomenographic study*, Occasional Paper Number 91.4, Educational Research and Development Unit, Royal Melbourne Institute of Technology, Melbourne.

The paper provides a statement of Sandberg's theoretical perspectives.

He argues that the primary source of current views of competence has been the rationalistic tradition in science embodied in the work of Frederick W. Taylor, who argued that management should be able to analyse workers'

competence by classifying it, tabulating and reducing it to rules, laws and formulas which provide a basis for matching competence and tools with the required tasks. Later, this approach guided the influential work of Boyatzis on management. Other work (for example, Lorsch and Morse) recognised that in order to match tasks and competence, the qualities of the task should also be analysed. But the problem with all of these strands is that competence is treated as an entity in itself and 'the knowledge of the individual and the requirements of the job are not described in the same terms'. This contributes 'not only to a reification of the worker but a reification of the competence phenomenon itself' in that forms of human activity become turned into metaphysical ideals, for example Boyatzis' dogmatic notion of one right management competence (pp. 1-2).

These approaches assume it is possible to describe competence separate from the individual, assume the individual and the task can be analysed separately, and see competence as a quantity of something - 'a particular number of different skills and knowledge', a combination of different properties [for example for the purpose of employee selection]. A better approach, following Husserl, is to re-integrate subject and object by understanding the 'life-world' as always immediately present in our experiences and our actions, so that 'no neutral standpoint exists from which we can investigate human competence as an entity in itself' (pp. 2-3). This means also that

> we cannot split human competence into two independent parts, such as the number of personal properties and the qualities of the task. This is because we are always intentionally related to the world and the world is always intentionally related to us ... to regard human competence as a property-based phenomenon is to overlook the most fundamental aspect of human competence, namely, its intentional dimension (p. 3).

Asking what are the properties of competence results in a focus on 'different kinds of knowledge and skills that form the competence in question'. But to describe competence as 'intentional achievement' is to reformulate the question and ask 'what constitutes competence in the accomplishment of the task?' The 'wholeness of human competence' is constituted by 'how the content of the work appears to the subject in the accomplishment of the task' (p. 3).

One way to investigate this is to examine the individual's conception of the work. The Swedish educational research approach called 'phenomenography' uncovers the intentional dimension by describing the individual's conceptions of the world around. This description takes in that world itself, the way of describing that world, and the 'meaning-bearing' intentional relation between the two. 'The conceptions precede and work as a base for all our subsequent knowing and doing'. This intentional dimension of the work is rarely developed in one single experience of the work, but is constitutes also 'by a number of subsidiary intentional experiences' (p. 4).

Sandberg applies this framework to the work of engine optimisers within Volvo. Some engine optimisers conceive competence in separate steps (Competence I), some as the optimising of different interacting steps (Competence II), and some as 'optimising the relation behind the whole engine and the customers' requirements' (Competence III).

These different forms of competence are described and discussed using interview material from Volvo, and he compares an analysis of these types of competence using a property-based approach to competences, with an analysis using the notion of competence as intentional achievement. Sandberg concludes that 'the development of competence must be directed to the goal of the task' and that Competence III approaches are most efficient (pp. 5-13). This means, for example

> if the optimisers need to learn more about engines, then the development activities would not focus on the knowledge itself but on developing a *practical sense of the engine* (as described in competence III) within the context of a *way of seeing* the work content that emphasised the relation between the completed engine and the customers' requirements (p. 14).

Secretary's Commission on Achieving Necessary Skills (SCANS) - United States Department of Labor (1992), *Learning a living: a blueprint for high performance*, Washington.

The SCANS framework is an official United States attempt to improve the quality and relevance of the education system in primary and secondary (K-12) schools. The introductory letter to the Secretary of Labor by the Chairman William Brock, sees the SCANS initiative as part of 'a nationwide effort to link education to the real world'. The people involved are seeking 'a particular

kind of learner, one who can put knowledge and skills into practice as a productive worker, a responsible citizen, and a more complete human being (pp. v-vi)

The project Committee has created a list of workplace competencies and foundation skills which it has called 'Workplace know-how' and has called for these to become the basis for education in the US. They are made up of five competencies and a three-part foundation of skills and personal qualities that are needed for 'solid job performance'. These are:

Workplace competencies: effective workers can productively use:

* Resources: they know how to allocate time, money materials, space, and staff.
* Interpersonal skills: they can work on teams, teach others, serve customers, lead, negotiate, and work well with people from culturally diverse backgrounds.
* Information: they can acquire and evaluate data, organize and maintain files, interpret and communicate, and use computers to process information.
* Systems; they understand social, organizational, and technological systems; they can monitor and correct performance; and they can design or improve systems.
* Technology: they can select equipment and tools, apply technology to specific tasks, and maintain and troubleshoot equipment.

Foundation skills: competent workers in the high-performance workplace need:

* Basic skills: reading, writing, arithmetic and mathematics, speaking and listening.
* Thinking skills: the ability to learn, to reason, to think creatively, to make decisions, and to solve problems.
* Personal qualities: individual responsibility, self-esteem and self-management, sociability, and integrity (p.xiv).

The Committee recommended that in order to improve America's economic performance and productivity, and to improve the chances all Americans to succeed, the following should occur:

1. The nation's school system's should make the SCANS foundation skills and workplace competencies explicit at all levels.
2. Assessment systems should provide students and workers with a resume documenting attainment of the SCANS knowhow.

3. All employers, public and private, should incorporate the SCANS know-how into all their human resource development efforts.
4. The Federal government should continue to bridge the gap between school and the high-performance workplace, by advancing the SCANS agenda.
5. Every employer in America should create its own strategic vision around the principles of the high-performance workplace (p. xv).

Schall, C., Guinn, K., Qualich, R., Kramp, M., Schmitz, J. and Stewart, K. (1984), *Competence and careers: a study relating competences acquired in college to career options for the liberal arts graduate,* Alverno College Productions.

This is a follow-up study of graduates from Alverno College, a competency-based women's liberal arts college in Milwaukee, designed to find out what skills graduates would need to succeed in business world.

The authors aimed to further female career options in business-related areas and to gather information about and develop an understanding of job abilities as related to career goals' (p. 2), in order to:

* influence women liberal arts students' career aspirations by making them more aware of the relationship between skills upward mobility in a variety of careers
* assist employers in better perceiving and utilizing the career abilities of liberally educated persons
* strengthen the academic program of Alverno College, of which Career Development is an integral part (p 2).

Managers in companies in the Milwaukee area were interviewed and asked to list in order of importance for work a series of competencies imparted to Alverno graduates during their study years. Their responses ranked the competencies as: social interaction, problem solving, communications, analysis, valuing, environment, responsiveness to the arts and, contemporary world. The authors argue that the study enabled them to 'establish direct relationships between competence and careers' (p. 120) and that the study not only demonstrated to employers the skills of liberal-arts graduates, but also acted as a 'verification that the generic abilities which Alverno graduates must demonstrate are the same competences managers themselves report using and see as necessary for their work' (p. 120).

Stephenson, John and Weil, Susan (1992), *Quality in learning: a capability approach to higher education*, Kogan Page, London.

Stephenson, John (1992), 'Capability and quality in higher education, in Stephenson and Weil (eds.), pp. 1-9

Stephenson opens the *Quality in Learning* study, outlining the 'capability' approach to higher education. He argues that:

> capability... is developed as much by the way students learn as by what they learn. If students 'have experience of being responsible and accountable fore their own learning, within a rigorous and interactive environment', they will develop confidence in their ability to take effective and appropriate action, to explain what they are about, to live and work effectively with other people, and to continue to learn from their own experiences. The medium, as they say, is the message (pp. 2-3).

Stephenson goes on to outline methods of looking at capability education, and means of teaching in such a manner. The group involved in Higher Education for Capability believe that 'helping students develop their independent capability is an aspiration of the highest quality' (p.9)

Stephenson, John and Weil, Susan (1992), 'Four themes in educating for capability', in Stephenson and Weil (eds.), pp 10-18.

The authors argue that part of the capability approach involves students in taking responsibility and being accountable for their own learning. This involves 'four related groups of activities':

> (1) reviewing and building on previous experience, knowledge and skills;
> (2) preparing plans and negotiating approvals;
> (3) active and interactive learning; and
> (4) the assessment of performance according to agreed learning outcomes (p.10)

Theme 1 involves looking at individual student differences and offering students the chance to develop their own starting points. This

promotes self-esteem and motivation, and also helps students to 'appreciate the value of their own experience and expertise'. Thus 'evaluation, communication and team-working skills are developed' (p.11). Theme 2 involves students in devising their plans for development, and having these approved. Theme 3 is seen as central to the capability approach.

> Active and interactive learning are key features of educating for capability because they give students personal skills and qualities, (3) relate their studies to the world outside, (4) gain experience of collaboration within a framework of specific objectives and (5) take initiatives and learn from their own experiences.

Theme 4 means that assessment of students should give them the opportunity to demonstrate

> (1) their grasp of their specialist studies through their ability to apply their knowledge and skills in relevant situations;
> (2) their ability to explain what they have learnt, and to discuss its relevance to their specialist field and their personal and professional development;
> (3) their ability to work effectively with others, including students and potential colleagues or clients; and
> (4) their ability to evaluate their own learning critically and to indicate how they might progress it further.

The authors argue that demonstrating the above '*ipso facto*, also allows successful demonstration of a range of component personal skills related to interaction, oral and written communication, and evaluation, integrated with each other and with the students' specialist work' (p.17).

Walker, Jim (1992), 'Summary and discussion', in Australian National University Centre for Continuing Education, *Higher education and the competency movement*, pp. 89-94.

Summing up the proceedings of a one day conference on 4 June 1992, Walker finds that 'the competency movement ... is at present a major and powerful integrative force in Australian thinking, planning, policy and practice in education and training. The emphasis on educational outcomes which was a

general feature of educational policy in the 1980s has received in the 1990s a much clearer and sharper focus in the concept of competency' (p. 90).

Nevertheless, there are a series of questions which pose 'the biggest challenges to the competency movement'. Not all of the goals of education and training can be embraced by the notion of competent performance. Competencies tend to be individualistic and must be 'set in a clearly specified framework relating them to organisational, cultural and social factors'. Such aspects as 'organisational culture, workplace relations, and patterns of communication and leadership' can play a key role in enhancing performance. 'The basic issue, without a doubt, and the issue on which most if not all the others turn, concerns the purpose of competency statements and standards' (pp. 91-92). A question concerns the respective roles of specific and 'general or generic' competencies.

> It is important to stress, however, that there are at least three conditions under which the move to generic competency based standards is intelligible and of practical use. The first is that there must be defensible and non-arbitrary interpretations of such generics in specific contexts: they must cash out in recognisable and identifiable ways. Second, knowledge of the variety of specific contexts, including their variability andunpredictability, must be fed into the process of development of generic competency statements and standards. This means extensive consultation with those working in the field, whether workplace or educational institution, and with other legitimate stakeholders. The question of adequate consultation has been of oncern in much of the competency debate so far. Third, the generic statements must be open to revision and refinement through the lessons learned by applying them in practice (p. 92).

There is a continuing need to address questions of evaluation and validation of competency-based approaches. It is also apparent that competency-based approaches must be adequately resourced at every stage. There are 'a host of issues of a methodological nature concerning the measurement and assessment of competencies, which have both research and resource implications'. The reported tendencies of some competency based systems to 'atomise learning and discourage the development of critical thinking' are of concern.

Then there are issues related to the relationship between competency based standards and 'the content, control of planning of education and training'. Potentially, a focus on employment-related outcomes leaves

institutions freer to choose their own route to those outcomes, while opening the production of competencies to any potential provider of education and training. Higher education institutions also face a special set of questions about articulation arrangements (pp. 92-94).

Walker, Jim (1992), *The value of competency based education*, paper presented at a conference on 'The effects of competency based education on universities', University of Western Australia, 24 June.

A careful discussion that is notable for its reasoned dissection of the behaviourist approach. Walkers begins with three features of the 'competency movement': competency based approaches focus on outcomes rather than inputs and processes, and in judging outcomes are non-discriminatory as to age, gender, ethnic background, institution, length of study, etc. Second, competency based approaches tend towards the integration of the education sectors. Third, they integrate educational and economic policy (pp. 1-2).

Walker says that 'the behaviourist approach assumes an empiricist theory of evidence' in which 'the evidence for our knowledge comes from direct observation only'. inference from the level of education or training is insufficient in itself. This makes the connection between knowledge and competence at best indirect, and means also that there is no necessary connection between *formal* education and competence (p. 2).

Behaviourism identifies competence in terms of distinct elements - competencies - susceptible to separate measurement, and it can be argued that 'it fails to recognise the interrelated and interdependent nature of human abilities', including potential. It is individualistic, failing to take account of group processes, and it is context-blind, neglecting such factors as organisational cultures. Further, 'behaviourism does not allow for the role of professional judgement in competent performance' (pp. 4-5), and

> The behaviourist approach is intrinsically conservative. by focussing for purposes of assessment only on actual performance, and indeed by deriving its specifications of competence from a purely descriptive analysis of actual performance or job functions, the approach fails to address the questions of how we should evaluate the work and work practices themselves. Behaviourism lacks a dynamic for change and reform (p. 5).

Behaviourism is also 'technicist' in that it implies that the worker carries out pre-specified functions rather than creating the job and developing her/his own performance - particularly inappropriate for the professions, and in the context of changing work practices - and it is 'atheoretical' in that it lacks an account of 'the nature and purposes of performance', and a theory of work able to both explain the conditions for work and performance, and normalise principles and directions for sound performance and creative occupational change (p. 5).

Although its 'face validity is high and its content validity is obvious' there is a lack of evidence to show that behaviourism produces superior educational outcomes. Walker prefers the 'holistic' approach. In the holistic approach 'competencies may be inferred from a variety of sources of evidence, including observation, interviews and the educational and training experiences and achievements of the person'. (The dilemmas of 'anti-behaviourist behaviourism', the necessary reduction to observable performance in the process of measurement of competence, are not addressed). In the holistic approach, generic competencies are one of the elements of professional practice, and how to use them in particular contexts is a question of professional judgement. The Mayer competencies are mentioned but receive little discussion (pp. 5-7).

Walker finds that 'the crucial issue' in the current debate, especially in relation to the universities, is the relation between competencies and knowledge. 'If the narrow behaviourist approach is taken, not only is the quality of professional performance compromised, but so is the integrity of the university curriculum'. In the holistic approach the connection between knowledge and competence might appear more diffuse, but this approach highlights the need for a broad approach to curriculum taking in knowledge of the social and cultural context, critical thinking, creativity and the capacity to reflect - the classical outcomes of liberal education (p. 7).

Waugh, Toni (1992), *Employment opportunities for arts graduates and graduates from other disciplines*, unpublished paper, Deakin University Department of Management, Geelong.

Noting that unemployment rates among arts graduates are relatively high, Waugh reviews the evidence showing that 'general transferable skills' are the

main attributes that employers expect of arts graduates, and analyses her own survey of 50 employers .

She finds that employers see arts graduates as having a higher level of these transferable skills than do other graduates, but these skills are not necessarily sufficient to enable arts graduates to compete successfully against graduates from other disciplines. Professional/technical skills, such as computer literacy and the ability to handle quantitative data, are also important facets of employability.

Weil, Susan and Emanuel, John (1992), 'Capability through science and mathematics', in Stephenson and Weil (eds.), pp 127-138.

Studies in Britain have found that science and technology courses are becoming increasingly unpopular and that in these courses little recognition is given to previous learning and experience.The authors criticise the curricula taught in most courses and especially the ever-increasing of curriculum content so as to accommodate newly-discovered technologies and ideas. This, they argue, detracts from learning by increasing the factual content involved while not necessarily improving understanding (p. 128).

They reiterate the argument that many science graduates will not go on to be employed in their field, instead going into a wide variety of jobs. Even those who do go into research and other scientific fields 'typically use only a small proportion of the content conventionally seen as being so essential to their courses'. Employers 'often find graduates lacking in problem-solving skills and unable to communicate accurately and effectively orally or in writing' (p. 129). To counter this they call for

> The 'fitness for purpose' view of quality in the teaching and learning of science and [to] be taken seriously. We must think less in terms of the vocational needs of the training of research scientists and more of the general needs of employment and the broader development opportunities that can be offered by a scientific training (p. 129).

Another change involves expanding the traditional activity of students working in pairs, so as to more readily emulate the industry concept of working in teams, and thus developing communication and interpersonal skills. In conclusion Weil and Emanuel say that

> Scientific education in future will need to place value on creative working with specialist understanding and skills. The challenge is not only to develop scientists and mathematicians, but to develop people with a scientific or mathematical education who can live and work in a rapidly changing world. There can be little doubt that graduates who combine technical subject-based skills and knowledge with capability skills are what the nation needs and what employers are increasingly demanding (p. 138).

Weil, Susan and Melling, David (1992), 'Capability through humanities and social sciences', in Stephenson and Weil (eds.), pp. 104-126.

The authors question whether the traditional dichotomy between those who favour a traditional detached approach in the humanities and those who favour 'instrumentalism' is a useful one. They argue that

> While it would be supine for educators to accept uncritically a demand that they provide courses which produce graduates tailored to fit the immediate needs of the employment market, students stand only to gain from the extra emphasis on learner responsibility and accountability as the basis for the development of personal, social and communicative skills and a range of transferable skills which enhance their employability, their capacity for self-employment, their entrepreneurship and their ability to contribute to the development of society, be it as parent, worker or citizen (p. 107).

Weil and Melling question the worth of current curricula in the humanities areas and ask whether a system that is able to produce students with good grades and creative work 'but remain completely at a loss when faced with the need to communicate ideas verbally, to share in group activities, to define their own educational objectives, to present and argue a case or to show evidence of the array of skills needed if they are to make their own way in the world at large' (p. 108) is really producing successful graduates.

The authors list some of the changes in curricula being undertaken at various non-university higher education institutions, and the links that are being formed between local businesses and humanities students. Students have been involved in organising library catalogues, archival work, and

report writing. These tasks have been assessed by both employers and teachers. In conclusion it is argued that:

> Students studying humanities and social science disciplines at university level are not expected merely to learn about those disciplines, they are expected to attain a certain competence as practitioners. While there are schools and traditions within disciplines with their own relatively standardised methods and their local dialects, it is nevertheless expected that humanities and social sciences academics maintain a critical and self-critical attitude to their work and develop a degree of intellectual autonomy in their practice. A capability orientation brings to the fore issues of competence, autonomy, and responsibility that reflect the normal self-understanding of practitioners within humanities and social science traditions (p. 126).

Williams, Bernard (1987), 'What hope for the humanities', *Educational Review*, 39 (3), 1987, pp. 183-189.

An eloquent, orthodox defence of the 'civilising mission' of the humanities.

Williams argues that the core issue is the need for 'the organised, funded, necessarily institutional pursuit of certain subjects, of certain kinds of knowledge' (p. 185). He says that the humanities are an indispensable part of the process of understanding society. By encouraging reflection they provide one of the conditions of social criticism, and therefore their role is at least potentially democratic:

> If it is right that the humanities as subjects make an essential contribution to the understanding of society and that the understanding of society is essentially connected to ways in which we can reflect on it, question it, and hence try to change it: then questions of who should be taught how much of the humanities are essentially connected with questions of how open or transparent society should seek to be. if an elite were to runsociety in a relatively unquestioned way, then only an elite would need to have much insight into what it is and where it has come from. But if we believe that in the modern world, at least, that cannot indefinitely work, then the conclusion is not only that it is vital that the humanities should be pursued as on-going subjects but that access to them, and some kind of knowledge of them, are things that should be as widely spread as they can be (p. 188).

Woditsch, Gary, Schlesinger, Mark, and Giardina, Richard (1987), 'The skilful baccalaureate: doing what liberal education does best, *Change*, November-December 1987, pp. 48-57.

This is an incisive article about the skills gained in and the uses made of the bachelor degree in the liberal arts. The authors claim the evidence suggests that the attributes often attributed to the liberally educated - 'capable thinkers, communicators, problem solvers, and decision makers' (p. 50) - *are* of use to employers. They cite the Beck study of AT&T (1981) that studied the liberal arts graduates within the systems management of that company and found that

> at the beginning of their careers with AT&T, humanities and social science majors were superior in administrative skills (including organizing, planning, decision making and creativity) to majors in business and engineering. On all three dimensions of interpersonal skills - leadership skills, oral communication skills, and forcefulness of personal impact - the humanities and social science majors were again clearly ahead. Even after twenty years the humanities and social science majors continued to demonstrate the overall performance in administrative skills, interpersonal skills, verbal ability, and advancement motivation. They were also seen as having greater middle-management potential than either business or engineering majors. In fact, 46 percent of humanities and social science majors were seen as having such potential, compared with 31 percent of business majors and 26 percent of engineering majors (p. 50).

After looking at this evidence and some from liberal arts colleges they authors conclude that 'clearly, in terms society finds relevant, the non-specialist baccalaureate is doing something worthwhile' (p. 50).

The authors look at some of the competency-based model colleges such as Mars Hill and Alverno. At Alverno liberal education was seen as creating a situation in which departments would be called to justify their courses and evaluation procedures according to whether their graduates were 'competent actor[s]' as well as 'competent thinker[s]' (p. 52). The outcome is that 'student progress through the curriculum could now be seen as an incremental gathering of skills, the sum of which occasioned the whole: a competent, liberally educated human being' (p. 52).

The authors conclude that 'in sum, liberal education should invoke these two extremely important notions: (1) thinking skills mature recursively -

educators need to supply context and sustain motive for that recursion; and (2) to be guided, thinking skills need to be caught in action, not just surmised from their outcomes'.

> Our model baccalaureate will not eschew any of its traditional missions, but three insights will orchestrate everything it does. First and overarchingly, it will expect students to employ their intelligence more powerfully and effectively when they leave than when they come.
>
> Second, it will build and maintain a window to the students' thinking process so that the students themselves, peers, and instructors may grow conscious of what transpires there. It does this because with consciousness comes the possibility of guidance and self-modification.
>
> Third, it will govern pedagogy with the recursive nature of intellectual growth in mind, which means each advance in skill will be sequenced and exercised so as to encourage the next (p.53).

Also read

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